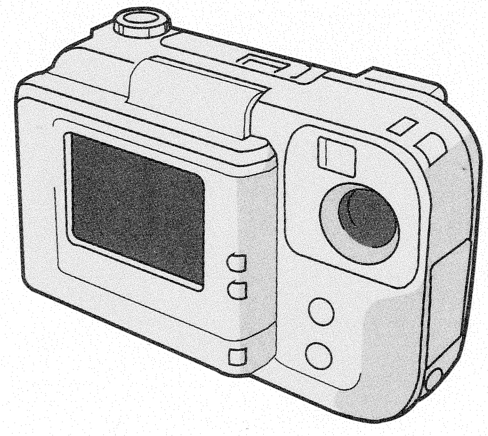
JVC

SERVICE MANUAL

LCD CAMCORDER

GR-SV3EG/EK



Compact VHS

VHS C
PAL

SPECIFICATIONS *(The specifications shown pertain specifically to the model GR-SV3EG)*

GENERAL

Format : VHS PAL standard
Power source : DC 6 V ⎓
Power consumption : 5.3 W (LCD monitor off)
8 W (LCD monitor on)
Signal system : PAL-type
Video recording system : Luminance: FM recording
Colour: Converted sub-carrier direct recording
Conforms to VHS standard
Cassette : VHS C cassette
Tape speed (SP) : 23.39 mm/sec
(LP) : 11.70 mm/sec
Recording time
Max. (SP) : 45 minutes (with EC-45 cassette)
(LP : 90 minutes (with EC-45 cassette)
Operating temperature : 0°C to +40°C
Operating humidity : 35% to 80%
Storage temperature : –20°C to +50°C
Weight : Approx. 830 g
Dimensions : 172 (W) x 120 (H) x 82 (D)mm

CAMERA

Pick up : 1/4"-format CCD
Minimum required illumination : 12 lx
(F2.8)
Illumination range : 12 to 100,000 lx
Lens : F2.8, f = 4 to 12 mm, 3:1 power zoom lens
Focus : Pan-focus (W:40 cm to infinity, T:1.3 m to infinity)
Viewfinder : Optical zoom viewfinder

LCD MONITOR

Size : 3" diagonally measured
System : LCD/TFT active matrix

VIDEO (via VIDEO connector)

Output : 1 Vp-p, 75 ohms, unbalanced
Input : 0.5 to 2.0 Vp-p, 75 ohms, unbalanced

AUDIO

Output : –8 dBs, Low impedance (via AUDIO connector)
Input : –8 dBs high impedance (via AUDIO connector)
Speaker : 20 mm round x 1, monaural
Headphone : 3.5 ∅, monaural

AC POWER ADAPTER/BATTERY CHARGER (AA-V11EG, V11EK) SPECIFICATIONS

Power requirement : AC 110 – 240 V∼, 50/60 Hz
Power consumption : 23 W
Output : DC 8.5 V ⎓, 1.3 A (CHARGE)
DC 6.3 V ⎓, 1.8 A (VTR)
Charging system : Constant current, peak detection, timer controlled
Dimensions : 150(W) x 42(H) x 68(D) mm
Weight : Approx. 350 g (V11EG), Approx. 400 g (V11EK)

CASSETTE ADAPTER (C-P6U) SPECIFICATIONS

Dimensions : 188 (W) x 25 (H) x 104 (D) mm
Weight : Approx. 240 g
Accessory : "R6 (AA)"-size battery x 1

Specifications shown are for SP mode unless otherwise specified.
E. & O. E. Design and specifications subject to change without notice.

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No. 86244
October 1994

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Safety Precautions

1. The design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the product have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (⚠) on the Parts List in the Service Manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the Parts List of Service Manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.

Warning

1. This equipment has been designed and manufactured to meet international safety standards.
2. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
3. Repairs must be made in accordance with the relevant safety standards.
4. It is essential that safety critical components are replaced by approved parts.
5. If mains voltage selector is provided, check setting for local voltage.

INSTRUCTIONS

Thank you for purchasing the JVC Compact VHS camcorder. Learn about all the available features and take advantage of them for your total moviemaking enjoyment. Before using this camcorder, read this instruction booklet carefully so that you will obtain the best results from your camcorder.

SAFETY PRECAUTIONS

WARNING:
TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

CAUTIONS:
- To prevent shock, do not open the cabinet. No user serviceable parts inside. Refer servicing to qualified personnel.
- When you are not using the AC Power Adapter/Battery charger for a long period of time, it is recommended that you disconnect the power cord from AC outlet.

Warning on lithium battery

The battery used in this device may present a fire or chemical burn hazard if mistreated. Do not recharge, disassemble, heat above 100°C or incinerate.

Replace battery with CR2025; use of another battery may present a risk of fire or explosion.
- Dispose of used battery promptly.
- Keep away from children.
- Do not disassemble and do not dispose of in fire.

PAL

- This camcorder is designed exclusively for the VHS-C video cassette. Only cassettes marked VHS-C can be used with this unit.
- HQ VHS is compatible with existing VHS equipment.

Warning Notice
It may be unlawful to record or playback copyrighted material without the consent of the copyright owner.

NOTES:
- The rating plate (serial number plate) and safety caution are on the bottom and/or the back of the main unit.
- The rating plate (serial number plate) of the AC Power Adapter/Battery Charger is on its bottom.

This unit is produced to comply with Directives 76/889/EEC, 82/499/EEC, 87/308/EEC and Standard IEC Publ. 65.

You are recommended to carefully read the cautions on page 32 and 33 before use.

CE mark on the rating plate declares that the product complies with Directives 89/336/EEC and 93/68/EEC.

Nickel-Cadmium (Ni-Cd) battery pack
Must be recycled or disposed of properly.

This camcorder is designed to be used with PAL-type color television signals. It cannot be used for playback with a television of a different standard. However, live recording and LCD monitor playback are possible anywhere. Use the BN-V12U/V22U/V50U/V60U battery packs and, to recharge them, the provided multi-voltage AC Power Adapter/Charger. (An appropriate conversion adapter may be necessary to accommodate different designs of AC outlets in different countries.)

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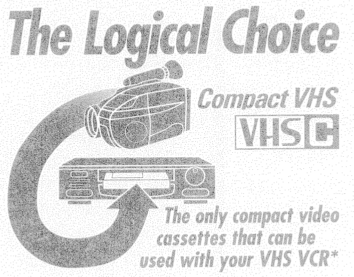
IMPORTANT NOTICE


The Logical Choice
Compact VHS
VHS C
The only compact video cassettes that can be used with your VHS VCR*

JVC COMPACT VHS ADVANTAGES

☞ Convenience
Easy playback on your VHS deck* — no hook-ups necessary.

☞ Conserve
You don't have to use the camcorder for playback — this reduces the wear of the camcorder.

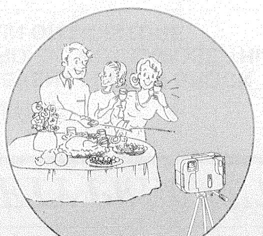
☞ Comfort
Can use the convenient features of your VCR with the remote control from your easy chair.

☞ Communication
Can send your tapes to others who also own a VHS VCR.

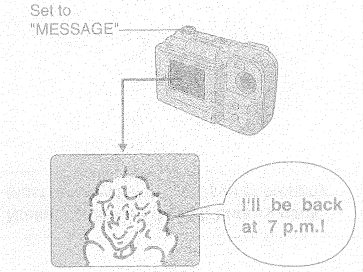
☞ Choice
Can also view the playback picture through the LCD monitor or connect directly to a TV.

*Using Cassette Adapter

Self Timer (☞ P. 20)



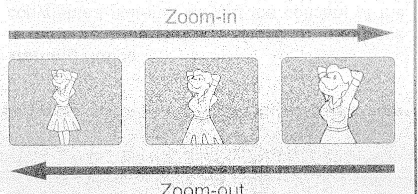
Message Mode (☞ P. 24)

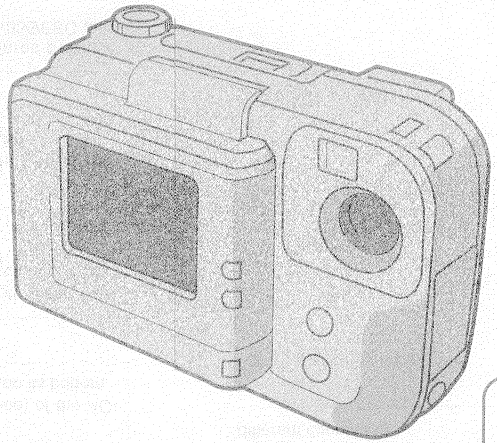

Set to "MESSAGE"
I'll be back at 7 p.m.!

QuickRec (5-Sec. Rec. mode) (☞ P. 19)

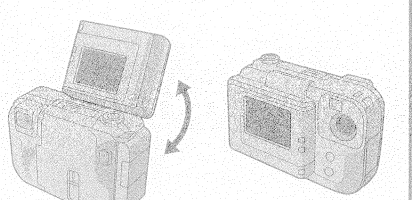
Seek Function (☞ P. 21)

3X Power Zoom (☞ P. 19)


Zoom-in
Zoom-out

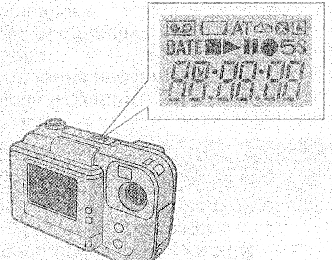


Multi-Purpose 3"Color LCD Swing Monitor



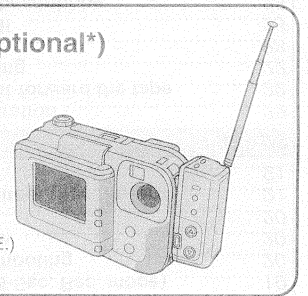
Interface Shooting

LCD Status Panel (☞ P. 10)


AT
DATE
5S
88:88:88

TV tuner TU-V20E (optional*)

VHF channels: 2 to 13
UHF channels: 21 to 69

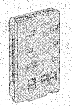


(For operation, refer to the instruction manual for the TU-V20E.)

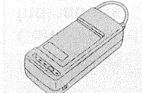
*Not available in some areas.

Instant ReShoot (☞ P. 21)

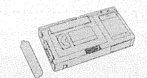
PROVIDED ACCESSORIES



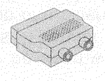
Battery pack
BN-V12U
(☞ P. 11, 12)



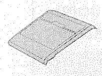
AC power
adapter/charger
AA-V11EG
(☞ P. 11, 12)



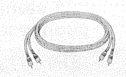
Cassette adapter
C-P6U (☞ P. 27)



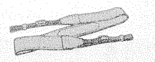
Cable adapter
(☞ P. 26)



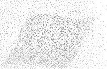
Sun hood
(☞ P. 16)



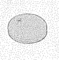
AUDIO/VIDEO
cable (☞ P. 26)



Shoulder strap
(☞ P. 17)



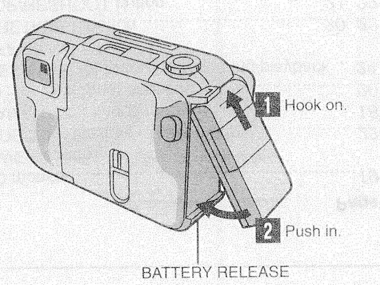
Cleaning cloth
(☞ P. 29)



Lithium battery CR2025
(☞ P. 14)

QUICK OPERATION GUIDE

SUPPLY POWER


1 Hook on.
2 Push in.
BATTERY RELEASE

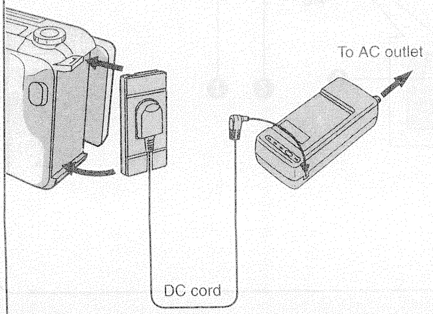
A. Using the battery pack

1 Hook-on the battery pack's top end to the camcorder. (Charging procedure, ☞ P. 12)
2 Push in the battery pack in until it locks into place.

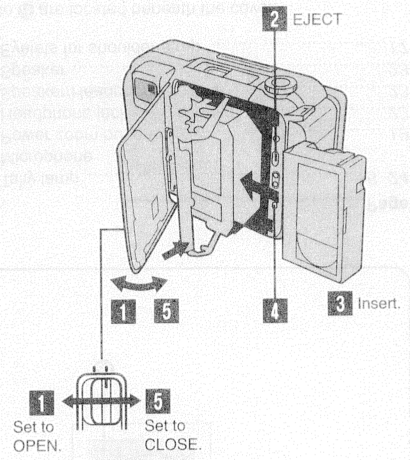
To remove the battery pack
Slide BATTERY RELEASE and pull out the battery pack.

B. Using the AC power adapter/charger (☞ P. 11)

To attach the DC cord to a camcorder:
Same as the battery pack (above).

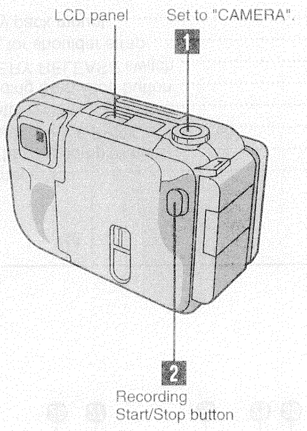

To AC outlet
DC cord

INSERTING A VIDEO CASSETTE


2 EJECT
1 5
4
3 Insert.
1 Set to OPEN.
5 Set to CLOSE.

1 Slide the cassette cover latch to "OPEN".
2 Press EJECT.
3 Insert a video cassette.
4 Set SP/LP as required.
5 Close the cassette cover and slide the cassette cover latch to "CLOSE".
(For more details, ☞ P. 15)

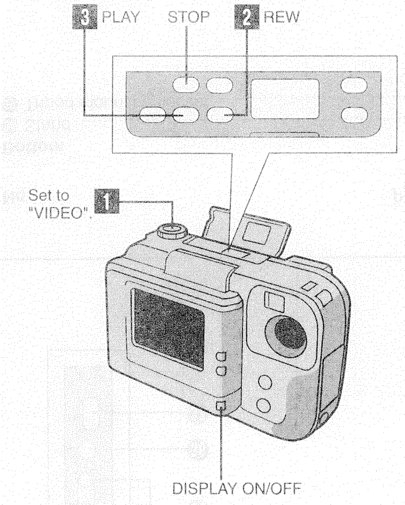
SHOOTING


LCD panel
Set to "CAMERA".
1
2 Recording Start/Stop button

1 Set the power switch to "CAMERA".
— The indicators appear on the LCD panel.
2 Press the Recording Start/Stop button.
— Recording starts.

- To stop recording temporarily, momentarily press the Recording Start/Stop button once again.
(For more details, ☞ P. 18)

PLAYBACK

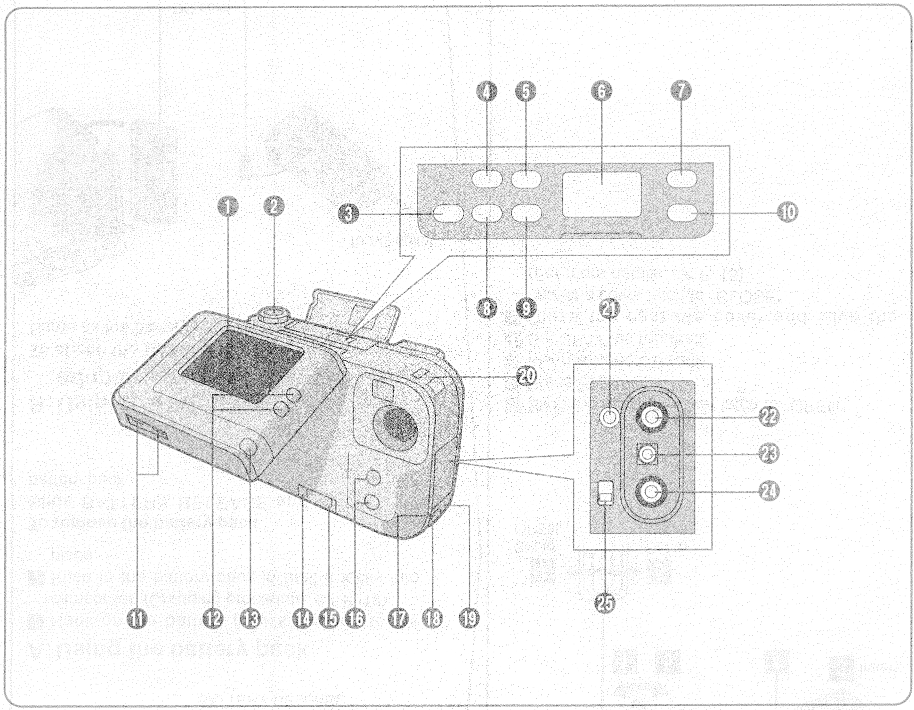

3 PLAY
STOP
2 REW
Set to "VIDEO". 1
DISPLAY ON/OFF

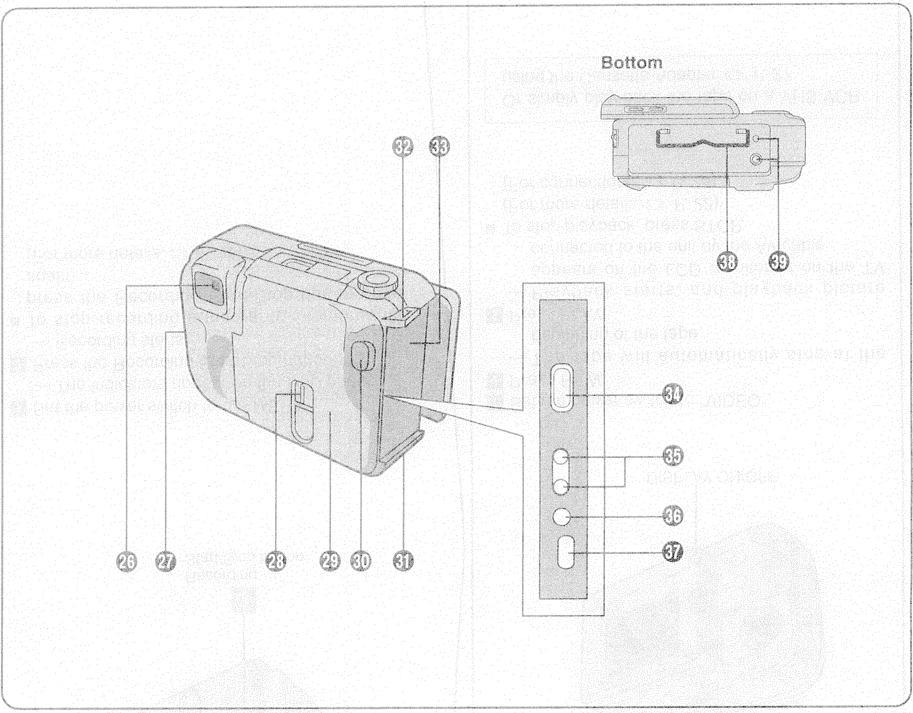
1 Set the power switch to "VIDEO".
2 Press REW.
— The tape will automatically stop at the beginning of the tape.
3 Press PLAY.
— Playback starts, and playback picture appears on the LCD monitor or on the TV connected to the unit by the AV cable.

- To stop playback, press STOP.
(For more details, ☞ P. 22)
(For connections, ☞ P. 26)

Or simply play back the tape on a VHS VCR using the Cassette Adapter. ☞ P. 27

CONTROLS AND CONNECTORS





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⑰ Headphone jack (🎧 , capped)	23
⑱ Speaker/Headphone volume (VOL.)	23
⑲ Speaker	23
⑳ Eyelets for shoulder strap	17

㉑ to ㉕ are located beneath the cover.

㉑ Remote jack	28
㉒ VIDEO jack	26, 27
㉓ DC OUT jack	26
㉔ AUDIO jack	26, 27
㉕ IN/OUT SELECT switch	26

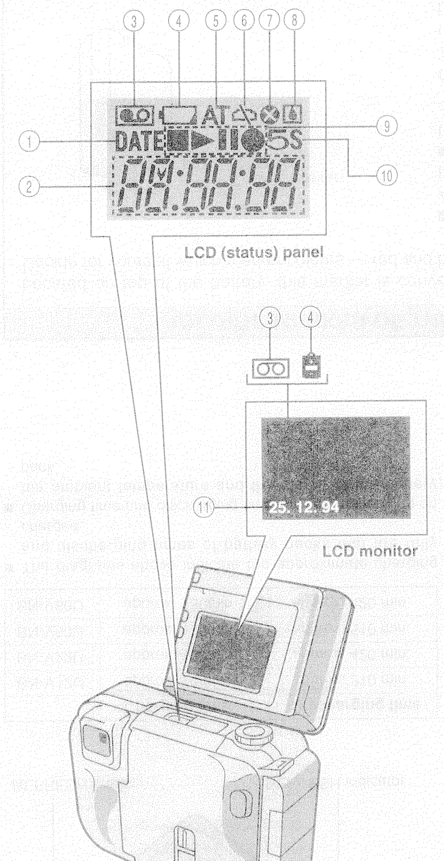
- OUT : When connecting to a TV or VCR to watch the playback picture or dub a tape.
- IN : To watch the picture from a connected VCR or TV tuner TU-V20E (optional) on the LCD monitor.

No.	Page
㉖ Viewfinder	18
㉗ Clock battery compartment	14
㉘ Cassette cover OPEN/CLOSE latch	15
㉙ Cassette cover	15
㉚ Recording Start/Stop button	18
㉛ BATTERY RELEASE switch	11
㉜ Eyelet for shoulder strap	17
㉝ Battery pack mount	11

The button ㉞ to ㊲ are located beneath the cassette cover.

㉞ EJECT switch	15
㉟ TRACKING/DATE ADJ. (adjust) buttons	14, 22
㊱ AUTO DATE/SET button	14
㊲ SP/LP recording mode select switch	16

No.	Page
Bottom	
㊳ Stand	17
㊴ Tripod mounting socket	17



① **Auto Date indication**
Displayed when the Auto Date function is activated. (☞ P. 14)

② **Elapsed time counter/Date & time indication/ Message indication**

- Normally displays the elapsed time counter. It is reset to "0:00:00" by pressing C.RESET or loading/unloading the cassette. (☞ P. 18)
- When adjusting date/time, either day/month/year or hour/minute is displayed. Pressing DISPLAY allows the user to review the adjusted items. (☞ P. 14)
- In Message mode, the number of messages is displayed. (☞ P. 24)

③ **▣, ▣ : Tape end warning**
Blinks when the tape is about to reach its end. When it reaches its end, its indicator disappears from the LCD monitor, and appears on the LCD Status Panel.

- This indicator may not blink depending on the tape being used.

④ **▭, ▮ : Low-battery warning**
Blinks when battery power is running out. After this indication appears, the unit automatically turns itself off. Replace the battery pack with a fully charged one.

⑤ **AT : Tracking indication** (☞ P. 22)
Displayed while the Auto Tracking system is activated.

⑥ **⌂ : Clock battery warning**
Blinks for approx. 5 seconds, and then lights still after the unit is turned on if the lithium battery is not in place or exhausted. In this condition, no date/time function is available.

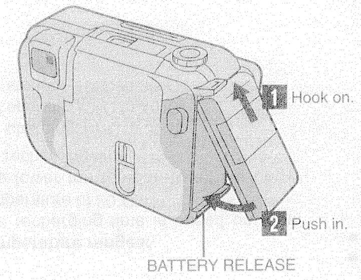
⑦ **⊗ : Head clog warning**
Blinks when the video head becomes clogged. Use the cleaning cassette (JVC TCC-2U, optional). If the indication still remains, consult your nearest JVC dealer.

⑧ **▣ : Condensation warning**
Blinks when moisture condensation occurs on the head drum. While the indication is on the LCD panel, the unit's functions come to a halt. Turn off the unit, and leave it for a few hours. Then set the power switch to "CAMERA" or "VIDEO". A few minutes later, the warning should disappear.

⑨ **Operating modes**
● : Recording is being performed.
❚❚● : Recording Standby mode
❚❚ : Playback pause
▶ : Playback
▶ ❚❚ (blinking) : Seek (blank search) mode (☞ P. 21)
■ : Stop
■ (blinking) : Instant Reshoot (Rec. Return) mode (☞ P. 21)
❚❚● (blinking) : Quick Review (☞ P. 20)

⑩ **QuickRec (5-sec. Record) indication** (☞ P. 19)

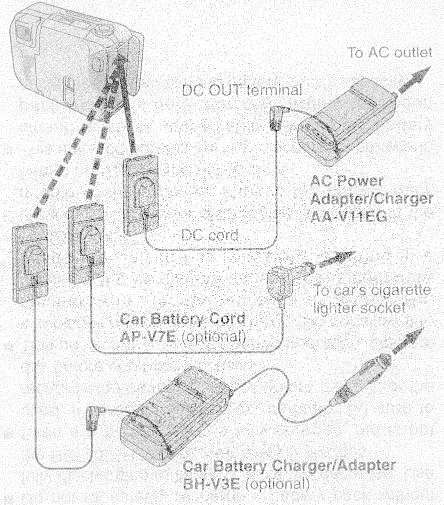
⑪ **Date display**
The date is automatically displayed and recorded for approx. 4 seconds after the date changes or a cassette is loaded.



Recording time

	LCD monitor OFF	LCD monitor ON
BN-V12U	approx. 70 min.	approx. 45 min
BN-V22U	approx. 140 min.	approx. 95 min
BN-V50U	approx. 170 min.	approx. 115 min
BN-V60U	approx. 140 min.	approx. 95 min-

- The recording time per charge is influenced by the duration of the recording standby, frequency of zooming, etc. It is safer to have spare battery packs.


To AC outlet
DC OUT terminal
AC Power Adapter/Charger AA-V11EG
DC cord
To car's cigarette lighter socket
Car Battery Cord AP-V7E (optional)
Car Battery Charger/Adapter BH-V3E (optional)

POWER SUPPLY SYSTEM

The convenient 3-way power supply system gives you a choice of the most appropriate power supply unit, depending on the application.

- No function is available without power supply.
- Do not use any power supply other than specified.
- Never attempt to use these power supply units with any equipment other than the camcorder.
- The provided AC Power Adapter/Charger features automatic voltage selection in the AC range from 110 V to 240 V.

WITH BATTERY PACK

The battery pack has been kept in the uncharged state for shipment. Therefore, before use, be sure to charge it. (☞ See next page.)

Attaching the battery pack

1 Hook-on the battery pack's top end to the camcorder. (Charging procedure, ☞ P. 12)
2 Push in the battery pack in until it locks into place.

To remove the battery pack
Slide BATTERY RELEASE and pull out the battery pack.

WITH AC POWER

Use the AC Power Adapter/Charger.

Note:
This unit can be used with 110 V to 240 V power supplies. Selection is automatic and no adjustment is required.

IN A CAR

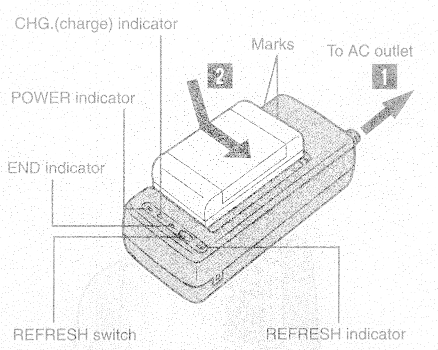
Use the Car Battery Cord or Car Battery Charger.

- Leave the car's engine idling when using the car battery.
- The battery pack can also be recharged with the BH-V3E.
- Refer to the instruction booklet of the BH-V3E (for use with 12 V or 24 V negative grounded cars only) and the AP-V7E (for use with 12 V negative grounded cars only).

Caution:
DO NOT watch the LCD monitor while driving. That may undermine your attentiveness to driving, and lead to a traffic accident.

(Continued on next page.)

PREPARATIONS (Cont'd)



	Charging time	Discharging time
BN-V12U	approx. 70min.	approx. 210 min.
BN-V22U	approx. 130min.	approx. 420 min.
BN-V50U	approx. 170min.	approx. 510 min.
BN-V60U	approx. 130min.	approx. 420 min.

- The diagrams above indicate the approximate charging and discharging times of battery packs that are fully charged.
- Charging time and discharging time will vary depending on the ambient temperature and the status of the battery pack.

POWER SUPPLY SYSTEM (cont'd)

CHARGING/DISCHARGING THE BATTERY PACK

Charging the battery pack

1. Connect the AC power cord to a wall outlet.
   — The power indicator lights.
2. Align marks and slide the battery pack in the direction of the arrow until it locks in place.
   — The CHG. indicator lights.
   — When charging has been completed, the END indicator will light.
3. Slide the battery pack in the opposite direction of the arrow.

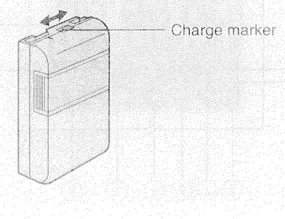
Using the REFRESH feature

The REFRESH feature on the AC power adapter allows you to completely discharge the power from the battery pack before charging. After charging the battery pack several times, the actual battery operating time will gradually decrease. For this reason it is recommended to use the REFRESH feature only after every 5 charges.

1. Attach the battery pack to the adapter as illustrated above.
2. Push REFRESH.
   — The REFRESH indicator will light and discharging will begin.
   — After discharging is completed, the indicator will go off.

CHARGE MARKER OF THE PROVIDED BATTERY PACK

Located on top of the battery, this marker is convenient for reminding you of the battery's charge status. Decide for yourself which marker colours — red and black — will represent charged and discharged.



- **"Battery charged" — RED**

After charging (as soon as charging is completed), set this marker so that red appears.

- **"Battery discharged" — BLACK**

Upon detaching the discharged battery from the camcorder, set this marker so that black appears.

CAUTION

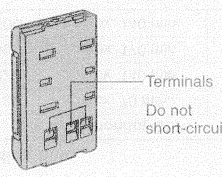
This marker does not move automatically. Make sure that the marker is properly set to accurately indicate the battery's charge status.

Notes:

- Do not repeatedly recharge a battery pack without fully discharging it. Its service life will decrease. Use the REFRESH feature after every 5 charges.
- Even if a battery pack is fully charged, but is not used, it naturally discharges gradually. Be sure to recharge the battery pack just before using it, or the day before you intend to use it.
- This unit is normally warm during operation. Operate it in places having good ventilation. Do not allow it to discharge in a container, such as a bag, etc. Blocking the ventilation causes the temperature inside the unit to rise, possibly resulting in a damaged unit.
- If either recharging or discharging is stopped in the middle of the process, remove the battery pack before unplugging the AC cord.
- This unit incorporates an over-discharging protection circuit; however, immediately remove the battery pack from this unit after discharging has been completed to maintain the battery pack's capacity.
- If used near a radio, the AC Power Adapter/Charger may interfere with reception.
- Be sure to unplug the DC cord before charging or discharging the battery pack.
- Before storing the battery pack for a long period it is recommended to discharge it.
- The REFRESH feature will not function if the power status of a battery pack is discharged (No power remaining).
- When the CHG.indicator is blinking, the battery pack has become hot. Wait for a while for the battery pack to cool.
- With a just-purchased battery pack, or with a battery pack that has been stored for a long period, the CHG. indicator may not light properly. In such a case, remove and reattach the battery pack again, then do the recharging procedure. The CHG. indicator should light during recharging to indicate, the battery pack is normal. If this is not the result, consult your nearest JVC dealer.

A WORD ON THE EXCLUSIVE BATTERY PACKS

The battery packs are nickel-cadmium batteries and nickel-metal hydride batteries. Be sure to carefully read the following caution. When using an optional battery pack, please also read attached caution.



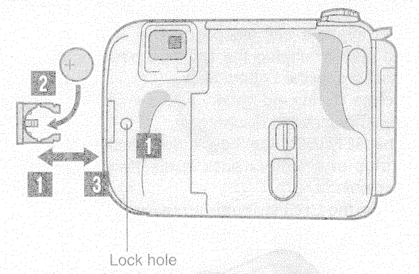
Temperature ranges:

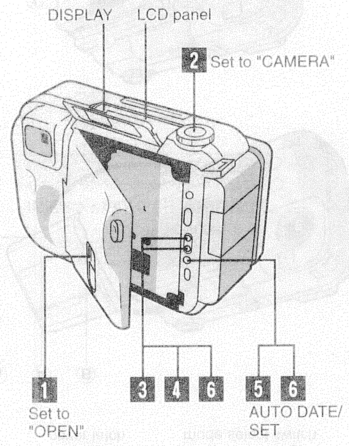
The recharging time is based on room temperature of 20°C.

The lower the temperature, the longer the recharging time.

For charging:10°C to 35°C
For operating:0°C to 40°C
For storing:–10°C to 30°C

- **To avoid hazard:**
  - Do not burn.
  - Do not short-circuit the terminals.
  - Do not modify or disassemble.
  - Use only specified chargers.
- **To prevent damage and prolong service life:**
  - Avoid dropping, unnecessary shocks.
  - Avoid repeated charging without discharging.
- **This unit has a limited service life:**
  Near the end of its service life, when it begins to deliver less recording time per charge, purchase a replacement.
- **It is normal for the unit to be warm after charging or use.**
- **This is a chemical reaction type battery; its properties are best maintained under the following conditions:**
  - Optimum charging takes place at temperatures between 10°C and 35°C. Cooler temperatures impede chemical reaction. Warmer temperatures can prevent complete charging.
  - Store in a cool dry place. Extended exposure to high temperatures will increase natural discharge and shorten service life.
  - Total natural discharge may occur during long storage periods. (Uncharged storage is preferable; recharge one day before use.)
  - Remove from charger or powered unit when not in use; some machines use current even when switched off.





CLOCK (LITHIUM) BATTERY INSERTION

Necessary for clock and date/time settings.

1. Insert a pointed object into the lock hole and pull out the clock battery holder.
2. Insert the provided lithium battery with the plus (+) side up into the holder.
3. Replace the battery holder until it clicks in place.

Warning on lithium battery
- Dispose of used battery promptly.
- Keep away from children.
- Do not disassemble and do not dispose of it in fire.

(See Warning on lithium battery, ☞ P. 2)

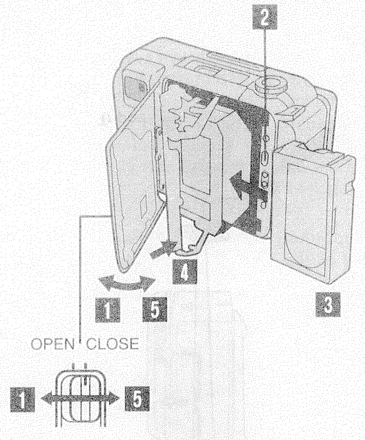
SETTING DATE/TIME

If the date/time is adjusted in advance. The date (day/month/year) will be displayed on the LCD monitor and will be recorded for approx. 4 seconds in the following situations:
- If the date and time had been adjusted prior to recording.
- If the date changes from one day to the next day between recordings.
- If a cassette is loaded prior to recording.

Proceed as follows when adjusting the date and time for the first time and after replacing the clock battery.

1. Open the cassette cover.
2. Set the power switch to "CAMERA".
3. Press both DATE ADJ. (+/–) buttons simultaneously.
   — The year blinks on the LCD panel.
4. Press either DATE ADJ. button to choose the correct year.
5. Press SET.
   — The year is adjusted.
6. Repeat steps 4 and 5 to set the month, day, hour and minute.
   — As the minute is adjusted, the clock begins to keep time.

Notes:
- While the date or time is blinking, the clock does not keep time.
- The LCD panel normally displays the elapsed time counter. To confirm the adjusted date/time, press DISPLAY. The items are shown one after another in approx. 5 seconds before the LCD panel turns back to the elapsed time counter. (DISPLAY becomes ineffective when the Message mode is engaged. ☞ P. 24)
- When the Auto Date function is not required (i.e., to cancel automatic date recording), press AUTO DATE. Make sure that the date indicator on the LCD panel disappears.



LOADING AND UNLOADING A CASSETTE

Loading

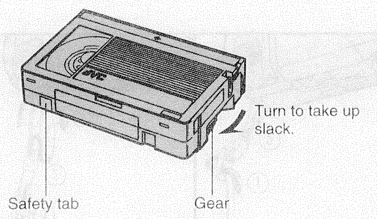
1. Slide the cassette cover latch to "OPEN".
2. Press EJECT. — The cassette holder opens.
3. Insert the cassette with its label facing outward.
4. Close the cassette holder.
5. Close the cassette cover and slide the cassette cover latch to "CLOSE".

Unloading

1. Slide the cassette cover latch to "OPEN".
2. Press EJECT. — The cassette holder opens.
3. Remove the cassette.
4. Close the cassette holder.
5. Close the cassette cover and slide the cassette cover latch to "CLOSE".

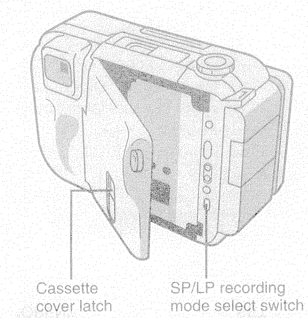
Notes:
The EJECT switch is ineffective when the power switch is set to "MESSAGE".

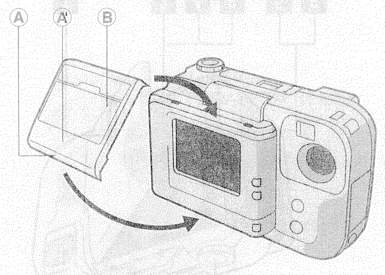
VIDEO CASSETTE

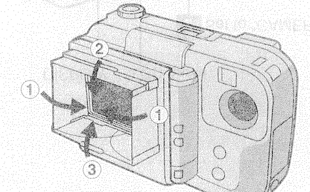


Storage of cassettes
- Avoid exposing the cassettes to direct sunlight. Keep them away from heaters.
- Avoid storing the cassettes in humid or dusty places.
- Do not drop the cassettes. Do not expose them to violent vibrations or shocks.
- Do not expose the cassettes to strong magnetic fields (near a motor, transformer or magnet).
- Place the cassettes in cassette cases and position them vertically.

- This camcorder employs only the cassettes carrying the VHS-C mark.
- Recording onto prerecorded tapes automatically erases the previously recorded video and audio signals.
- An inverted cassette cannot be inserted.
- Do not load and unload the cassette repeatedly without allowing the tape to run at all. This will slacken the tape and thereby damage it.
- Make certain before loading the cassette that the tape is not slack. If there is any slack, turn the gear on the cassette in the direction of the arrow to take up slack.
- The cassette is equipped with a safety tab to prevent accidental erasure. When the tab is removed, recording is impossible. If you wish to record on a cassette whose tab has been removed, use adhesive tape to reseal the slot.
- To avoid excessive exposure to dust and fingerprints, do not open the front tape cover.







SELECT THE RECORDING MODE

1 Slide the cassette cover latch to "OPEN".

2 Set the recording mode select switch as required.

- **SP:** To maintain sound and picture quality. Better for dubbing later.
- **LP:** To record 2 times longer than when in the SP mode. For more economical use of tape.

3 Close the cassette cover and slide the cassette cover latch to "CLOSE".

Note:

If the recording mode is switched during actual recording on the same tape, the playback picture will be distorted at the point of switching.

USING THE SUN HOOD

Shields the LCD monitor from reflection so that the user can watch it with ease even under direct sunlight. It also helps protect the monitor from damage.

How to attach

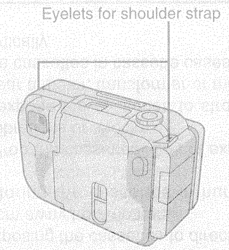
Insert the tab of the sun hood into the slot above the LCD monitor.

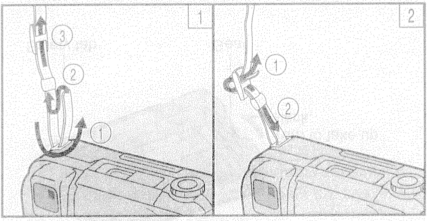
- To remove, pull up from Ⓐ. If difficult, try pulling down on Ⓐ while pressing Ⓐ'.

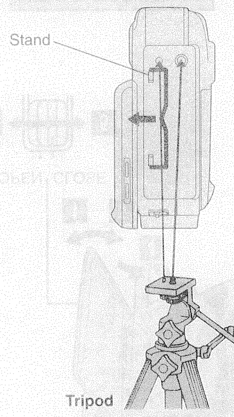
How to use

To watch the monitor, pull Ⓑ down; the other flaps automatically fold out.

When not using the monitor, fold the flaps back inside the frame beginning with the side flaps ①, as shown in the diagram on the left.







ATTACHING THE SHOULDER STRAP

1 Loop the end of the strap over the top of the eyelet ①, then, folding it back, thread the end of the strap first through the keeper ②, then the buckle ③. Making sure that the strap is not twisted, repeat the above procedure to attach the other end of the strap to the other eyelet.

2 Adjust the shoulder strap to the desired length ①, then slide both keepers up snug against the eyelets to prevent the strap from slipping ②.

USING THE STAND

The stand can be used to place the unit on a table, a shelf, etc.

TRIPOD MOUNTING

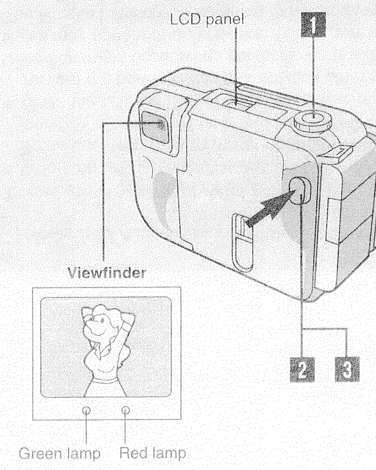
Align the screw and camera direction stud of the tripod with the camcorder's tripod mounting socket and stud hole, and firmly tighten the screw.

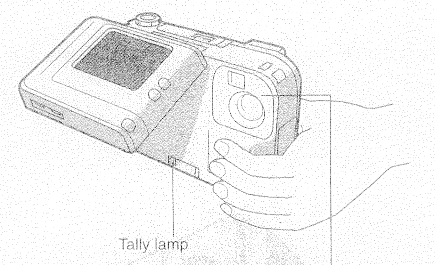
CAUTION:

When using a tripod, be sure to open and extend its legs fully to stabilize the camcorder. To prevent damage to the unit caused by falling over, do not use a small-sized tripod.

If the camcorder cannot be stabilized by any means, consult the nearest JVC Service Dealer for a tripod adapter.

SHOOTING





Caution: Be careful not to cover this area with your fingers; built-in here is the lens and sensor necessary for shooting.

SHOOTING

Preparations

- Supply power.(☞ P. 11.)
- Insert a video cassette correctly. (☞ P. 15.)
- Set SP/LP as required. (☞ P. 16.)

1. To enter the Record-Standby mode

1 Set the power switch to "CAMERA".

— The green lamp lights in the viewfinder, and ●II appears on the LCD panel.

2. To shoot the scene

2 Press the Recording Start/Stop button to start recording.

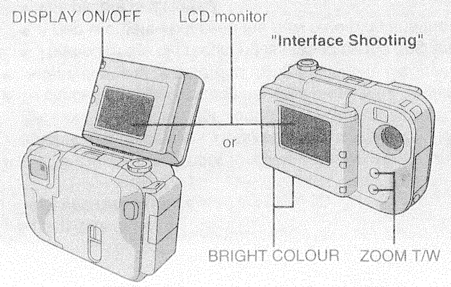
— The tally lamp and red lamp in the viewfinder light while the recording is in progress ● lights on the LCD panel.

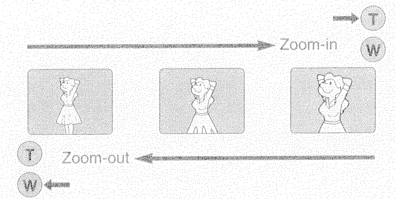
3 To stop recording temporarily.
Press the Recording Start/Stop button once again.

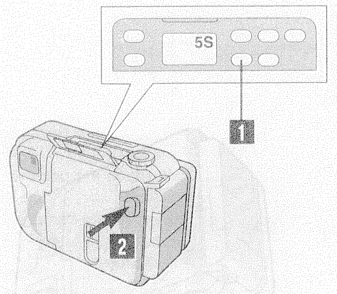
- To restart recording.
  Press the Recording Start/Stop button.
- Repeating steps 2 and 3 produces assemble recordings.

Notes and Advice

- The tape's elapsed time counter is displayed on the LCD panel. (☞ P. 10)
- If the Record-Standby mode continues for longer than about 5 minutes, the unit switches itself off automatically. To re-engage the Record-Standby mode, press the Recording Start/Stop button. This makes clean assembled recordings possible even after a long pause.
- For a longer pause, set the power switch to "OFF" to save power.
- The green lamp in the viewfinder blinks when one of the warning indicators below blinks on the LCD panel (☞ P. 10):
  - * .....Tape is about to reach its end.
  - * .....Battery power is running out.
  - * .....Moisture condensation is occurring.
  - * ⊗ .....Video head is clogged.
  - * .....Lithium battery is not in place or exhausted. (Blinks for approx. 5 seconds after the unit is turned on.)
- The recorded image may be slightly different from that captured through the viewfinder. This is because the lens and the viewfinder are separately positioned.
- Focusing is impossible within 0.4 m when fully zoomed-out (W), and within 1.3 m when fully zoomed-in (T).
- When recording with a cassette that has been removed from the unit in the middle of use, first re-locate the end of the last recording (i.e. the point that you want to start recording from) by using the Retake or Seek function (☞ P. 21) after re-inserting the cassette. Otherwise, the end of the last recording may be erased.







USING THE LCD MONITOR DURING SHOOTING

The LCD monitor, when lifted up, can be used to display the scene being recorded, freeing the user from having to squint through the small viewfinder. When on the same side as the lens, the monitor permits "Interface Shooting" — you can shoot yourself while viewing your own image on the monitor!

- Turning the power switch from OFF to CAMERA or from OFF to VIDEO automatically turns on the LCD monitor.
- Press DISPLAY ON/OFF to switch on/off the LCD monitor.

ZOOMING

Pressing the power zoom buttons ("T" & "W") will vary the focal length of the lens.

Procedure

- Pressing T [Telephoto]: Zoom in on the image (bring it nearer).
- Pressing W [Wide angle]: Zoom out.

QUICKREC (5-SEC. REC. MODE)

Records a scene for 5 seconds, providing quick scene transitions like those seen in TV programs.

1 Press 5-SEC. REC in the Record-Standby mode.

— "5S" appears on the LCD panel.

2 Press Recording Start/Stop button.

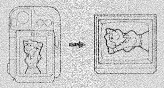
— Recording starts, and the Record-Standby mode is automatically engaged 5 seconds later.

- To resume normal recording, press 5-SEC. REC again in the Record-Standby mode. "5S" on the LCD panel disappears.

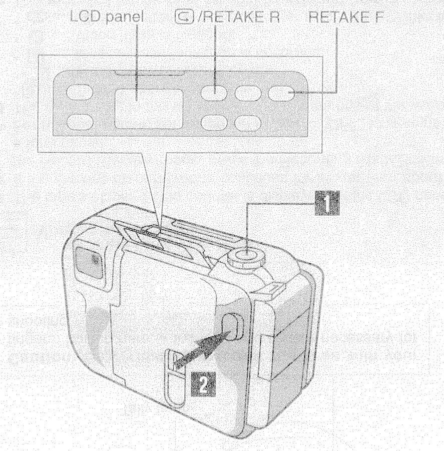
Notes and Advice

- Interface Shooting inverts the image like a mirror and the indicators on the LCD monitor.

- If the camcorder is held vertically (on its side) while shooting, the recorded/played-back picture falls sideways.



- When not using the LCD monitor, turn it off by pressing DISPLAY ON/OFF. That saves the battery's power.
- To obtain the best viewing position of the LCD monitor, adjust its angle in the Record-Standby mode. (If adjusted while shooting, the LCD monitor's shadow may be recorded.)
- The LCD monitor's brightness and color can be adjusted with the BRIGHT and COLOUR dials. Normally set both to the middle.
- To continue shooting longer than 5 seconds with the QuickRec mode engaged, keep the Recording Start/Stop button pressed. As long as it remains pressed, recording is possible.



SELF-TIMER SHOOTING

This mode lets you delay the start of recording after the Recording Start/Stop button has been pressed. If the camcorder has been secured, the operator can enter the picture before actual recording begins.

1. Set the power switch to "⏲".
   — The camcorder enters the Record-Standby mode.
2. Press the Recording Start/Stop button.
   — Recording automatically starts 15 seconds later.

- Until recording starts, the tally lamp and the red lamp in the viewfinder blink. When recording starts, they remain lit.

QUICK REVIEW

If you want to review the end of the last recording for confirmation, use this function.

1. Press Ⓖ when you are in the Record-Standby mode.
   — The tape will be rewound for about 2 seconds of program time and played back automatically for this section, after which it will pause in the Record-Standby mode for the next shot.

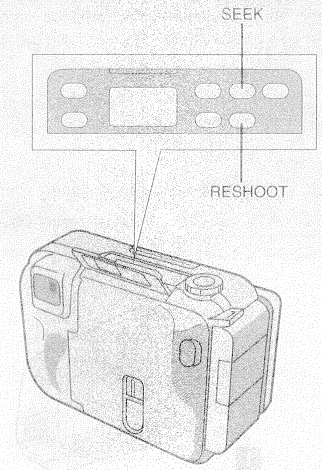
RETAKE

While recording, you may decide to re-record certain segments. The Retake function is convenient for this.

1. Make sure the camcorder is in the Record-Standby mode. (If not, engage the mode.)
2. Press either RETAKE to reach the point where you wish a new recording to start.
   - When RETAKE is released, the camera will enter the Record-Standby mode again.
3. Press the Recording Start/Stop button.
   — Recording starts.

Notes and Advice

- To cancel the Self-Timer mode:
  - When the tally lamp is blinking:
    Press the Recording Start/Stop button to turn off the tally lamp. Then set the power switch to a position other than "⏲".
  - When the tally lamp is off or the QuickRec mode (☞ P. 19) is engaged:
    Just set the power switch to a position other than "⏲".
- Distortion might occur when playback starts in the Quick Review mode. This is normal.
- Noise may appear during Retake. This is normal.
- The Retake function will continue to record over all video and audio from the point you start from.



INSTANT RESHOOT (REC.RETURN)

Useful to re-record a segment that you don't like.

1. Engage the Record-Standby mode.
2. Press RESHOOT.
   — The tape automatically rewinds back to the beginning of the last recording (one shot's worth). After that, the unit re-enters the Record-Standby mode.

SEEK

Searches for a blank segment on the tape.

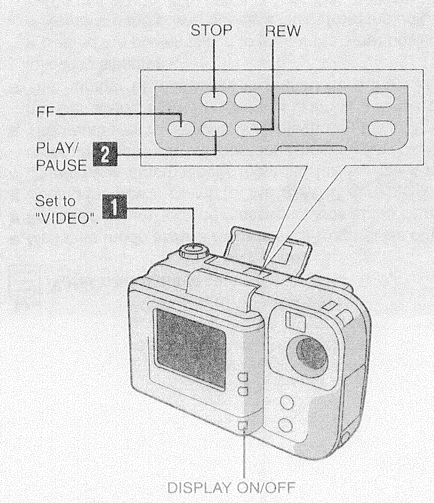
1. Press SEEK in the Record-Standby mode.
   — The camcorder automatically fast-forwards/rewinds to the end of the recorded portion of the tape. When the tape stops, the unit re-enters the Record-Standby mode.

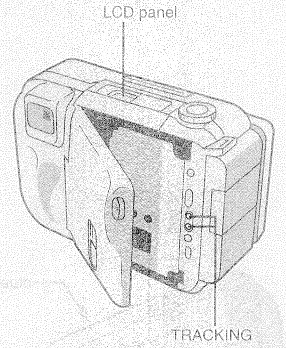
Notes and Advice

- Use the Instant ReShoot function as soon as the unit enters the Record-Standby mode after recording. After another operation (i.e., Retake, power off, ejecting/loading) is done in the Record-Standby mode, the Instant ReShoot function will not work.
- To cancel the Seek function halfway, press SEEK again.
- After a scene is re-recorded using the Instant ReShoot and Seek function, the following symptoms may occur:
  - The end of the old recording is erased by the beginning of the new one.
  - A gap is created between the new recording and the old one.
  - The picture is distorted.

  These are not due to any defect of the unit.
- If the SEEK function is used with a cassette not having a blank segment, the tape runs until its end.
- The Instant ReShoot function will continue to record over all previous video and audio from the beginning of the previous scene recorded.
- The Seek function looks for blank tape and will not work when recording over previously recorded tape.

PLAYBACK





The camcorder permits playback of recorded "VHS-C" video cassettes.
For connections refer to page 26.

PLAYBACK OPERATION

Preparations

- Supply power. (Battery or AC operation: ☞ P. 11)
- Insert a pre-recorded VHS-C cassette.
  - Ensure that tape is not slack inside the cassette, then load the cassette correctly. ☞ P. 15.

1. To playback a cassette

1 Set the power switch to "VIDEO".
2 Press PLAY/PAUSE.
— Playback starts and playback picture appears on the LCD monitor screen and connected TV.

2. To stop playback

- Press STOP.

REWIND OR FAST-FORWARD THE TAPE

To rewind the tape:
When in the stop mode, press REW.
To fast-forward the tape:
When in the stop mode, press FF.

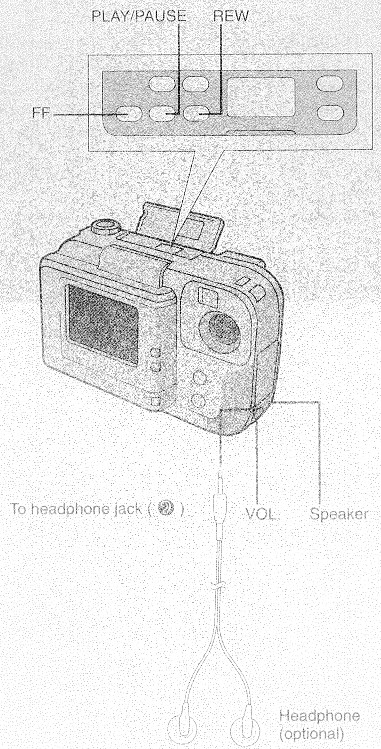
MANUAL TRACKING

Optimal tracking is usually maintained by the Auto Tracking system. If noise bars appear on the screen, the tracking needs to be adjusted manually.

1 Press both TRACKING (+/–) simultaneously during playback.
— "AT" on the LCD panel disappears.
2 Press either TRACKING + or – to adjust to the best picture possible.
- To resume Auto Tracking, press both TRACKING (+/–) simultaneously.
— "AT" appears on the LCD panel.

Notes and Advice

- After about 5 minutes in Stop mode, the camcorder switches itself off automatically.
(To turn on the camcorder again, set the power switch to "OFF" first and then back to "VIDEO".)
- The tracking adjustment may not be effective on tapes recorded on another VCR's or camcorders.
- If the playback picture does not appear on the LCD monitor, press DISPLAY ON/OFF.



STILL PLAYBACK

Press PLAY/PAUSE during playback.
- To resume normal playback, press PLAY/PAUSE again.

SHUTTLE SEARCH

Fast-speed forward playback:
Press FF during playback.
— Playback speed of the tape will be 3 times the normal speed in the SP mode, and 7 times in the LP mode.

Fast-speed reverse playback:
Press REW in the Play mode.
— Reverse playback speed of the tape will be 3 times the normal speed in the SP mode, and 7 times in the LP mode.

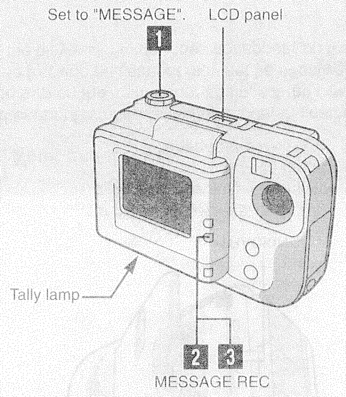
SPEAKER AND HEADPHONE

The built-in speaker or a pair of headphones (optional) can be used to listen to the playback sound.
- The sound is monaural.
- Turn VOL. to adjust the volume.
- Connect the headphone after removing the cap of the headphone jack.

Notes and Advice

- For brief fast-speed searching, hold FF or REW for more than 2 seconds. When the button is released, the search ends and the tape will play.
- Noise bars will appear and pictures may become monochrome while in Still Playback or Shuttle Search. This is not due to any defect of the unit.
- To protect the tape and to conserve power, the camcorder will enter the stop mode and turn itself off after 5 minutes of still playback.
- Adjust the playback sound volume to the appropriate level.
- The playback sound cannot be heard from the speaker when using headphones.
- When the built-in speaker's volume is too loud, the played-back picture may be unstable. In this case, lower the volume.

MESSAGE MODE



Useful for communication. Can be used as a "video bulletin board" for family members, or to make "video letters" for friends, etc.

Preparations

- Supply power by using the AC power adapter. (☞ P. 11)
- Insert a video cassette correctly. (☞ P. 15)

To record messages

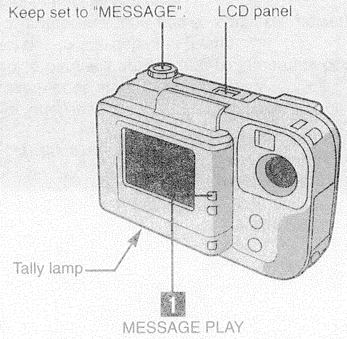
1. Set the power switch to "MESSAGE".
2. Press MESSAGE REC.
   — The tally lamp blinks in red, and then lights as recording starts. Make sure to record a message after the lamp becomes still.
3. When finished recording a message, press MESSAGE REC again.
   — Recording stops, and the LCD monitor automatically turns itself off. The tally lamp starts to blink in green.
4. Repeat steps 2 and 3.
   - Up to 30 messages can be recorded if the tape does not reach its end prior to that.
   - Leave the power switch set to "MESSAGE".

CAUTION:
If message playback is consecutively repeated or a large number of messages is recorded, the beginning/end of a message may not be properly played back. To prevent this, take a few seconds' leeway between one message and another.

Notes and Advice

- Message mode always records in SP regardless of the SP/LP recording mode select switch position.
- For more natural looking messages, look at the camcorder lens while you are recording your message.
- Setting the power switch to "MESSAGE" automatically zooms out the image.
- Date/time is automatically recorded for approx. 4 seconds at the beginning of every message. Since message recording is one kind of Interface Shooting (☞ P. 19), the indicators on the LCD monitor are inverted.
- The number of messages is displayed on the LCD panel. (☞ P. 10) As a message is recorded/played back, the number counts up. When the unit is turned off, the number shows how many messages have been recorded.
- The number of messages is erased from the LCD panel and message playback becomes impossible in the following situations:
  - Setting the power switch to one of the other positions than "MESSAGE", and then back to "MESSAGE"
  - Removing the power supply system from the unit.
  - The unit is unable to judge the number of messages.
  - After Message recording/playback is consecutively repeated, the beginning/end of a message may not be properly played back.

  In these cases, play back the tape normally. (☞ P. 22)



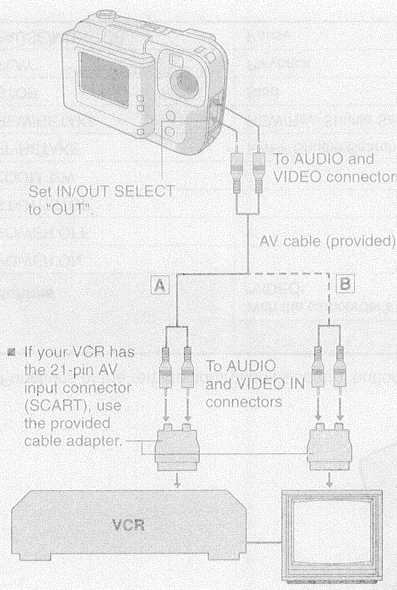
To playback messages

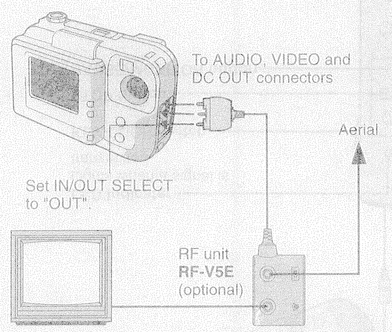
1. Press MESSAGE PLAY.
   — The LCD monitor switches itself on, and rewinds the tape back to the beginning of the first message. Then the message is played back.
   — The tally lamp remains lit in green.
2. As all the recorded messages are played back, the tape stops and the LCD monitor automatically turns itself off.

Notes and Advice

- Pressing MESSAGE PLAY while a message is being played back rewinds the tape to its beginning. (If pressed twice: to the beginning of the message before the previous message, and so on.)
- The EJECT switch is ineffective in the Message mode.
- The LCD monitor cannot be turned off while a message is being recorded/played back.
- With the power switch set to MESSAGE and the LCD monitor switched off, the LCD monitor remains off even if the power switch is turned to ⏲ or CAMERA.
- The unit remains turned on as long as the Massage mode is engaged. When not using the mode for a long time, turn off the unit.
- Either the built-in speaker or a headphone can be used to listen to playback sound.

CONNECTIONS/DUBBING TO A VCR


Set IN/OUT SELECT to "OUT".
To AUDIO and VIDEO connectors
AV cable (provided)
A
B
If your VCR has the 21-pin AV input connector (SCART), use the provided cable adapter.
To AUDIO and VIDEO IN connectors
VCR


To AUDIO, VIDEO and DC OUT connectors
Aerial
Set IN/OUT SELECT to "OUT".
RF unit
RF-V5E
(optional)

Also refer to the instruction manual for your VCR or TV when connecting the camcorder to them.

Preparation

Set IN/OUT SELECT to "OUT".

Connection/Tape Dubbing to a VCR A

In this situation, use the AV cable.

1. Connect the camcorder and the VCR as shown in the diagram on the left.
2. Turn on the camcorder, the VCR and TV.
3. Set the VCR to AUX(iliary) input mode, and the TV to the VIDEO mode.

Tape dubbing to a VCR

4. Correctly insert the appropriate cassettes into the camcorder and the VCR.
5. Engage the camcorder's play mode (☞ P. 22) and the VCR's recording mode to start dubbing.
   — To stop dubbing temporarily, engage the VCR's Record Pause mode and the camcorder's still mode.

- Stop both the camcorder and the VCR when dubbing is finished.

Connection to a television equipped with A/V input connector B

In this situation, use the AV cable.

- Connect the AUDIO and VIDEO connectors of the camcorder to the A/V input connector of the television.
- Use the Video (or AV) mode specified in the TV's instruction manual.

Connection to a television not equipped with A/V Input connector

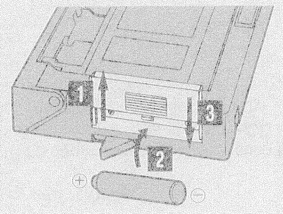
In this situation, use the RF unit RF-V5E (optional). For connection and operation, please refer to the instruction manual for the RF-V5E.

Notes and Advice

- It is recommended to use the AC Power Adapter/Charger as the power supply rather than the battery pack.
- It is possible to monitor the picture and sound from the camcorder even when a cassette tape is not loaded. Set the power switch to "CAMERA". When you select the television input from your camcorder, the audio and video can be monitored.
- The camcorder can be used to view the picture and hear the sound from a connected TV or VCR.
  - Set IN/OUT SELECT to "IN".
  - Connect the audio and video output connectors to the camcorder's AUDIO and VIDEO connectors using the AV cable.
  - *Set the power switch to "VIDEO".*

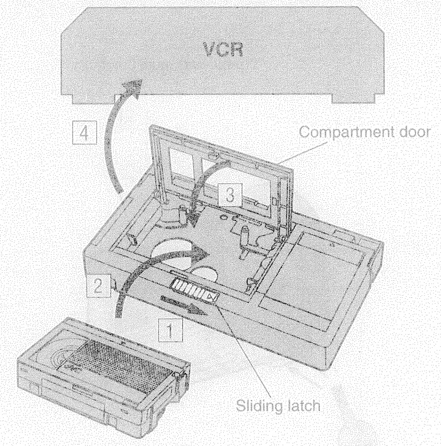
USING THE CASSETTE ADAPTER

By using the provided cassette adapter (C-P6U), a VHS video cassette recorded with this camcorder can be played back with any VHS video recorder. When the VHS-C video cassette is installed in the cassette adapter, it is fully compatible for both recording and playback on any VHS video recorder. The C-P6U cassette adapter is battery-powered and will automatically perform tape loading and unloading.



Inserting the battery into the cassette adapter

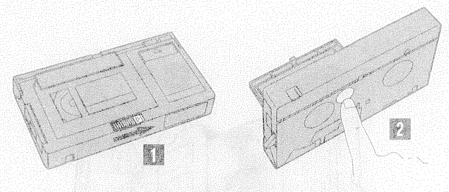
1. Remove the battery cover by sliding it up.
2. Install one "R6 (AA)" size battery as shown.
3. Reattach the cover.



Compact video cassette

Playback on the VCR

1. Open the compartment door by sliding the latch.
2. Insert the compact video cassette.
3. Close the compartment door. The tape is loaded.
4. Insert the cassette adapter into the VCR.
5. Playback the tape.



Removing the compact video cassette

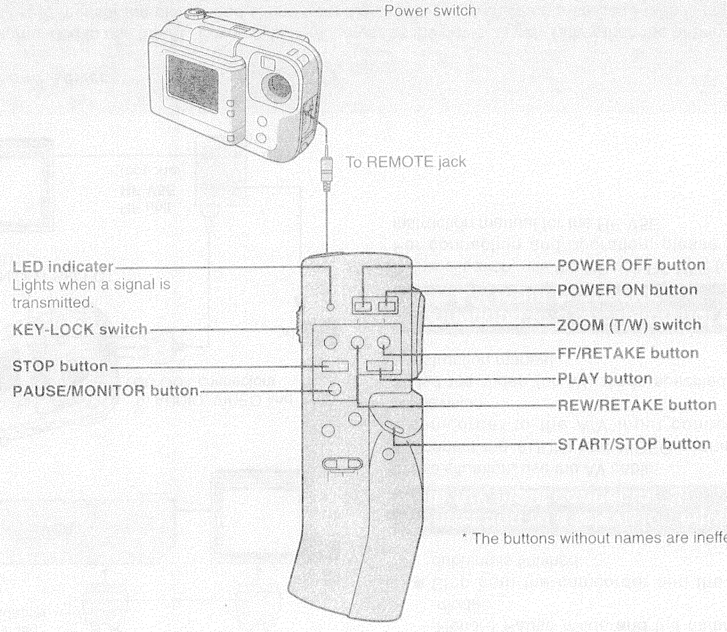
1. Slide the sliding latch.
   — The tape will be unloaded and the compartment door will open.
2. Insert your finger into the hole on the underside of the adapter, push the cassette up from below and remove it.

Notes and Advice

- Only compact video cassette tapes marked VHS-C can be used with the cassette adapter.
- During special-effect playback (slow motion, still frame, etc.), the picture may vibrate or noise bars may appear on the screen.

USING THE OPTIONAL REMOTE CONTROL UNIT

The RM-V20U permits VCR functions to be controlled from a distance. When using the RM-V20U, connect its remote cable to the camcorder's REMOTE jack.
*Before use, refer to the instruction booklet.

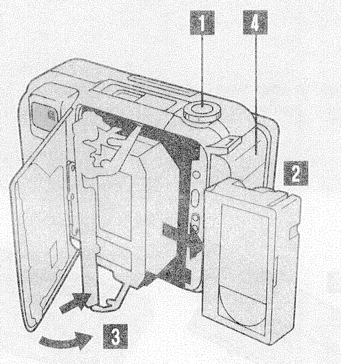

Power switch
To REMOTE jack
LED indicater
Lights when a signal is transmitted.
KEY-LOCK switch
STOP button
PAUSE/MONITOR button
POWER OFF button
POWER ON button
ZOOM (T/W) switch
FF/RETAKE button
PLAY button
REW/RETAKE button
START/STOP button

* The buttons without names are ineffective.

- Functions of the remote control unit's control buttons vary depending on the camcorder's POWER position.

	Functions	
Buttons	With the camcorder's power switch set to "VIDEO".	With the camcorder's power switch set to "CAMERA" or "⏲".
POWER ON	Power on	
POWER OFF	Power off	
START/STOP	—	Recording Start/Stop
ZOOM T/W	—	Zoom T/W
FF/RETAKE	FF/FF Shuttle Search	Retake (Forward)
REW/RETAKE	REW/Rew Shuttle Search	Retake (Rewind)/Quick Review
STOP	Stop	Instant ReShoot
PLAY	Playback	—
PAUSE/MONITOR	Pause	—

AFTER USE



1. Set the power switch to "OFF".
2. Remove the video cassette.
3. Close and lock the cassette holder and cassette cover.
4. Slide BATTERY RELEASE to remove the battery pack.

HOW TO CLEAN THE CAMCORDER

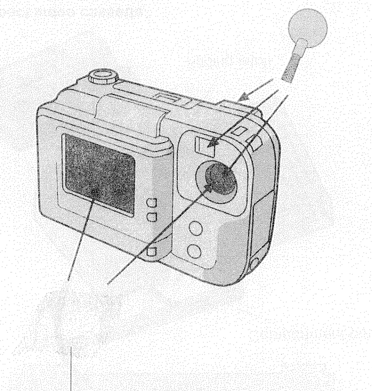
When the camcorder's exterior is dusty, clean by gently wiping with a soft cloth.

HOW TO CLEAN THE LCD MONITOR

Clean using the provided cleaning cloth.

HOW TO CLEAN THE LENS/VIEWFINDER

When the lens/viewfinder is dirty or dusty, blow it with a blower brush and then gently wipe with lens cleaning paper.


Cleaning cloth (provided)

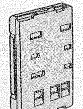
Notes and Advice

- Avoid using strong cleaning agents such as benzine or alcohol as they may damage the exterior.
- Do not apply excessive force to the LCD monitor.
- The lens may become moldy if left dirty.
- Cleaning should be done only after the power supply unit has been disconnected.

SYSTEMS FLEXIBILITY

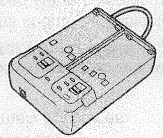
For maximum enjoyment, make the most of the provided or optional accessories depending on the situation.

- **Battery pack**
  BN-V12U
  BN-V22U
  BN-V50U
  BN-V60U



*Recording time ☞ P. 11

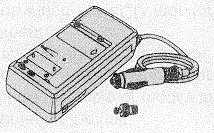
- **Multi AC Charger/Adapter AA-V35EG**
  Charges or discharges battery pack or powers the camcorder via household AC current. (Can be used with 110 V to 240 V.)



*Charging time

	Charging time	Discharging time
BN-V12U	approx. 50 min.	approx. 210 min
BN-V22U	approx. 100 min.	approx. 420 min
BN-V50U	approx. 120 min.	approx. 540 min
BN-V60U	approx. 100 min.	approx. 420 min

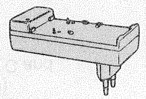
- **Car battery charger BH-V3E**☆
  Charges battery pack or powers the camcorder via a car battery. (Use with 12 V or 24 V nagative grounded cars only.)



*Charging time

BN-V12U	Approx. 50 min.
BN-V22U	Approx. 90 min.
BN-V60U	Approx. 90 min.

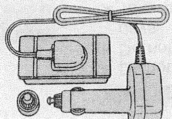
- **Battery charger BH-VC10EG**☆
  Use to charge the battery pack.



*Charging time

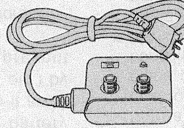
BN-V12U	Approx. 7 hours
BN-V22U	Approx. 13 hours
BN-V60U	Approx. 13 hours

- **Car battery cord AP-V7E**
  Power the camcorder via a car battery. (Use with 12 V negative grounded cars only.)



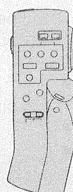
*Cable length: 2 m

- **RF unit RF-V5E**
  Use to connect the camcorder to a regular television for playback.



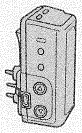
*Cable length: 1.5 m

- **Wired remote control unit RM-V20U**†

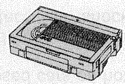


*Cable length: 3 m

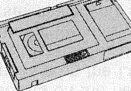
- **TV tuner TU-V20E**†
  Attach it to the camcorder to watch TV programs.



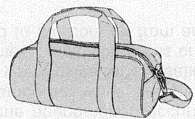
- **Compact VHS (VHS-C) cassettes EC-45/30**
  Allows 45/30 minutes of VHS recording and playback respectively.



- **Cassette adapter C-P6U**
  Enables the VHS-C cassette to be used with regular VHS machines.



- **Active carrying bag CB-V7U**



* Dimensions (WxHxD):
340 x 170 x 155 mm

☆The BN-V50U battery pack is not rechargeable with the BH-V3E and the BH-VC10EG.

† The RM-V20U and the TU-V20E cannot be used at the same time.

Some accessories are not available in some areas.

HELPFUL TERMS AND INFORMATION

The following glossary is for your convenience in helping you better understand your camcorder and its operation.

AUX mode: (☞ P. 26)
Refers to Auxiliary mode. When the camcorder is connected to a VCR for editing or dubbing, the VCR should be set to this mode.

AV: (☞ P. 26)
Short for Audio/Video. Often refers to the audio (sound) and video (picture) signals which, when combined, make up a program.

CCD (Charge Coupled Device):
Solid-state imaging device used in camcorders as the camera's image pickup; analogous to the eye's retina except that picture information is output as electric signals.

Head:
An electronic component which "writes" or "reads" video signals on the tape.

HQ (High Quality):
An enhancement feature in the VCR circuitry which provides greater picture detail.

Instant ReShoot (Rec. Return): (☞ P. 21)
Useful to re-record a segment that you don't like. The tape automatically rewinds back to the beginning of the last recording.

LCD (☞ P. 10, 19, 29)
Short for Liquid Crystal Display.

Lithium battery: (☞ P. 14)
Necessary for camcorder's clock and date/time settings.

Message mode: (☞ P. 24)
Useful for communication, as a "video bulletin board" and to make "video letters", etc.

Quick review: (☞ P. 20)
Permits reviewing of the final part of the last recorded segment in the Record-Pause mode.

QuickRec (5-sec. Rec. mode) (☞ P. 19)
Records a scene for 5 seconds.

Refresh: (☞ P. 12)
A feature on the AC power adapter that lets you completely discharge the power from the battery pack before charging again. Contributes to longer battery life.

Retake: (☞ P. 20)
Permits forward or reverse search in the Record-Pause mode for easy re-recording.

Seek function: (☞ P. 21)
Searches for a blank segment on the tape.

Self-timer: (☞ P. 20)
Enables a camcorder to automatically start recording after a selected delay time so the operator can enter the picture before actual recording begins.

Tracking: (☞ P. 22)
A mechanism enabling the tracking position to be adjusted during playback so that the heads can accurately pick up the recorded signal in the best condition.

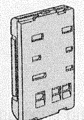
Tally lamp: (☞ P. 18)
Lights to show that recording is in progress.

VCR: (☞ P. 26)
Short for Video Cassette Recorder.

SYSTEMS FLEXIBILITY

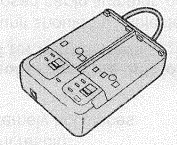
For maximum enjoyment, make the most of the provided or optional accessories depending on the situation.

- **Battery pack**
  BN-V12U
  BN-V22U
  BN-V50U
  BN-V60U



*Recording time ☞ P. 11

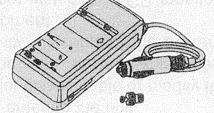
- **Multi AC Charger/Adapter AA-V35EG**
  Charges or discharges battery pack or powers the camcorder via household AC current. (Can be used with 110 V to 240 V.)



*Charging time

	Charging time	Discharging time
BN-V12U	approx. 50 min.	approx. 210 min
BN-V22U	approx. 100 min.	approx. 420 min
BN-V50U	approx. 120 min.	approx. 540 min
BN-V60U	approx. 100 min.	approx. 420 min

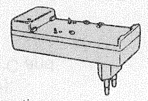
- **Car battery charger BH-V3E☆**
  Charges battery pack or powers the camcorder via a car battery. (Use with 12 V or 24 V nagative grounded cars only.)



*Charging time

BN-V12U	Approx. 50 min.
BN-V22U	Approx. 90 min.
BN-V60U	Approx. 90 min.

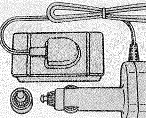
- **Battery charger BH-VC10EG☆**
  Use to charge the battery pack.



*Charging time

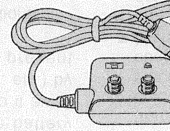
BN-V12U	Approx. 7 hours
BN-V22U	Approx. 13 hours
BN-V60U	Approx. 13 hours

- **Car battery cord AP-V7E**
  Power the camcorder via a car battery. (Use with 12 V negative grounded cars only.)



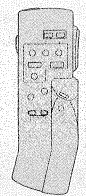
*Cable length: 2 m

- **RF unit RF-V5E**
  Use to connect the camcorder to a regular television for playback.



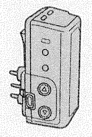
*Cable length: 1.5 m

- **Wired remote control unit RM-V20U†**

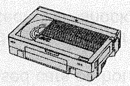


*Cable length: 3 m

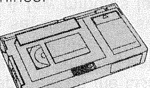
- **TV tuner TU-V20E†**
  Attach it to the camcorder to watch TV programs.



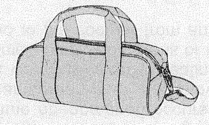
- **Compact VHS (VHS-C) cassettes EC-45/30**
  Allows 45/30 minutes of VHS recording and playback respectively.



- **Cassette adapter C-P6U**
  Enables the VHS-C cassette to be used with regular VHS machines.



- **Active carrying bag CB-V7U**



* Dimensions (WxHxD): 340 x 170 x 155 mm

☆The BN-V50U battery pack is not rechargeable with the BH-V3E and the BH-VC10EG.

† The RM-V20U and the TU-V20E cannot be used at the same time.

Some accessories are not available in some areas.

HELPFUL TERMS AND INFORMATION

The following glossary is for your convenience in helping you better understand your camcorder and its operation.

AUX mode: (☞ P. 26)
Refers to Auxiliary mode. When the camcorder is connected to a VCR for editing or dubbing, the VCR should be set to this mode.

AV: (☞ P. 26)
Short for Audio/Video. Often refers to the audio (sound) and video (picture) signals which, when combined, make up a program.

CCD (Charge Coupled Device):
Solid-state imaging device used in camcorders as the camera's image pickup; analogous to the eye's retina except that picture information is output as electric signals.

Head:
An electronic component which "writes" or "reads" video signals on the tape.

HQ (High Quality):
An enhancement feature in the VCR circuitry which provides greater picture detail.

Instant ReShoot (Rec. Return): (☞ P. 21)
Useful to re-record a segment that you don't like. The tape automatically rewinds back to the beginning of the last recording.

LCD (☞ P. 10, 19, 29)
Short for Liquid Crystal Display.

Lithium battery: (☞ P. 14)
Necessary for camcorder's clock and date/time settings.

Message mode: (☞ P. 24)
Useful for communication, as a "video bulletin board" and to make "video letters", etc.

Quick review: (☞ P. 20)
Permits reviewing of the final part of the last recorded segment in the Record-Pause mode.

QuickRec (5-sec. Rec. mode) (☞ P. 19)
Records a scene for 5 seconds.

Refresh: (☞ P. 12)
A feature on the AC power adapter that lets you completely discharge the power from the battery pack before charging again. Contributes to longer battery life.

Retake: (☞ P. 20)
Permits forward or reverse search in the Record-Pause mode for easy re-recording.

Seek function: (☞ P. 21)
Searches for a blank segment on the tape.

Self-timer: (☞ P. 20)
Enables a camcorder to automatically start recording after a selected delay time so the operator can enter the picture before actual recording begins.

Tracking: (☞ P. 22)
A mechanism enabling the tracking position to be adjusted during playback so that the heads can accurately pick up the recorded signal in the best condition.

Tally lamp: (☞ P. 18)
Lights to show that recording is in progress.

VCR: (☞ P. 26)
Short for Video Cassette Recorder.

CAUTIONS

For safety, strictly observe the following instructions.

- Do not open the camcorder's chassis.
- Prevent inflammables, water and metallic objects from entering the unit.
- Do not disassemble or modify the unit.
- Do not use the unit when there is lightning in the vicinity. Disconnect the power cable of connected equipment.
- Do not watch the LCD monitor or operate the unit while driving/walking. That may undermine your attentiveness to driving/walking, and lead to a traffic accident.
- Do not short-circuit the terminals of the battery packs. When carrying a battery pack, keep it away from metallic objects (key holder, necklace, etc.) by putting it in a vinyl bag, etc. This can prevent accidents.

Avoid using the unit under the following conditions:

- Places subject to excessive humidity or dust.
- Near appliances generating strong magnetic or electric fields (speakers, broadcasting antennas, etc.).
- Places subject to soot or steam such as near a cooking stove.
- Places subject to excessive shock or vibration.
- Near a television set (rolling pictures or howling might result).
- Extremely hot places.

Do not expose the unit to high temperatures over 40°C for long periods.

If the unit should be subjected to direct sunlight, or left in a closed car in summer, or placed near a heater, the CCD may deteriorate and the cabinet may become deformed. Furthermore, this also may cause the transistors and other electronic and mechanical parts to malfunction. Remember the following:

- Do not leave the unit in places of over 50°C.
- Do not use the unit in places of over 40°C.
- Do not use the unit in places of below 0°C.
- Protect the unit from excessively dry or humid conditions (below 35% or above 80% humidity).
- For long storage, select a place between –20°C and 30°C.

Handle the unit carefully.

- Protect the microphone from excessive shocks.
- Do not carry the unit by holding it only by the LCD monitor.
- Avoid undue strain on the camcorder's shoulder strap, such as unnecessarily swinging the camcorder.

Moisture condensation.

- You have observed that pouring a cold liquid into a glass will cause drops of water to form on the glass's outer surface. This same phenomenon occurs on the head drum of a camcorder when it is moved from a cool place to a warm place, after heating a cold room, under extremely humid conditions or in a place directly subjected to the cool air from an air conditioner.
- Moisture on the head drum can cause severe damage to the video tape, and can lead to internal damage to the camcorder itself.
- If moisture condensation occurs on the head drum, a condensation warning appears on the LCD panel and the unit enters the Stop mode, unable to function. In such a case, turn off the unit, and leave it for a few hours. Then set the power switch to "CAMERA" or "VIDEO". A few minutes later, the warning should disappear.

Take special care for protection of the unit.

- Do not allow the unit to become wet.
- Do not leave the unit in closed cars on hot summer days.
- Take special care not to drop the unit or strike it against hard objects. Protect from shocks during transportation.

Make it a rule to observe the following instructions.

- Do not remove the battery pack or disconnect other power supply units while the power is on. If not observed, this will cause tape damage and missoperation.
- When the unit is not in use, remove the battery pack.

Be careful not to damage the CCD.

- Do not keep the lens directed at extremely bright objects such as the sun or other light sources for long periods. Although the CCD is less susceptible to such burn than a tube would be, caution should be exercised when using this unit.
- Do not direct the viewfinder at the sun.

Be careful not to damage the LCD monitor.

- To prevent scratching or cracking its surface, don't push it strongly or apply any shocks, and avoid rubbing it with coarse cloth.
- Do not place the unit with the LCD monitor on the bottom.
- During transportation, close the flaps of the attached sun hood.
- While using the camcorder, the back of the LCD monitor may heat up. This is not due to any defect of the unit.

Serious malfunctioning

If malfunctioning occurs, stop using the unit immediately and consult your local JVC dealer.

General Battery Precautions

- When the RM-V20U/C-P6U is not functioning even when correctly operated, the batteries are exhausted. Replace them with fresh batteries.
- Use only following batteries in the unit.
  RM-V20U ....R03 (AAA) size
  C-P6U ....R6 (AA) size

Please make note of the following rules for battery use. When misused, batteries can leak or explode.

1. Insert the batteries correctly according to the diagram inside the battery section.
2. Do not use old and new batteries together.
3. Do not use two different kinds of batteries. Although sizes may be the same, voltages may differ.
4. Do not expose batteries to excessive heat as they can leak, or explode. Do not dispose of batteries in a fire.
5. Remove batteries from the unit if it is to be stored for an extended period to avoid battery leakage which can cause malfunctions.

IN CASE OF DIFFICULTY

What may initially appear to be trouble is not always a real problem. Make sure first.....

Symptoms	Check points
Power	
No power is supplied.	■ Is the battery pack charged? ☞ P. 12. ■ Is the power supply unit (i.e.,battery pack) correctly connected? ☞ P. 11.
Recording	
Recording is impossible.	■ Check to see if the cassette's safety tab is in place. ☞ P. 15. ■ Does the condensation warning appear on the LCD panel? ☞ P. 10.
Playback	
Tape is running, but no playback picture appears.	■ Is the IN/OUT SELECT set to OUT? ☞ P. 26. ■ Is the AV cable connected correctly? ☞ P. 26. ■ If A/V connection is used, is the TV's VIDEO/TV switch set to VIDEO? ■ Is the TV receiver set to your video channel? ■ Is the RF unit set to the correct channel? ■ Is the LCD monitor turned off? Press DISPLAY ON/OFF to turn it on.
Noise bars appear in the playback picture.	■ Use TRACKING to reduce noise bars. ☞ P. 22.
Playback picture is blurred or interrupted.	■ Video head may be dirty or worn out. For head cleaning or replacement, consult the nearest JVC Service Dealer.
Rewinding or fast-forwarding is impossible.	■ Check to see if the tape has already been fully wound on one reel or the other.
Other	
White vertical lines appear when shooting a very bright object.	■ The background contrasts very much with the object. This is normal.
The subject viewed on the monitor is dark.	■ Are you shooting a strongly backlit object? Shoot with the light behind you.
Picture does not appear.	■ Is the BRIGHT control adjusted correctly? ☞ P. 19. ■ Is the LCD monitor turned off? Press DISPLAY ON/OFF to turn it on.
Dark picture on the monitor.	■ Is the BRIGHT control adjusted correctly? ☞ P. 19. ■ In cold temperatures, the picture may be dark even if the power is turned on. This is normal.
The colors are incorrect or weak.	■ Is the COLOUR control adjusted correctly? ☞ P. 19.
Colored bright spots appear all over the LCD monitor.	■ This is characteristic of LCD (Liquid Crystal Display), and not due to any defect of the unit.
The indicators and the picture color on the LCD monitor are not clear.	■ This may occur when the surface or the edge of the LCD monitor is pressed.
The picture on the LCD monitor becomes discolored.	■ Adjust the angle of the LCD monitor to obtain proper picture color.
No sound.	■ Is the VOL.(volume) control set to the "minimum" position? ☞ P. 23.
Picture is blurred in the Quick Review or Retake mode.	■ Is SP/LP properly set? ☞ P. 16.
The EJECT switch doesn't function.	■ Is the power switch set to "MESSAGE"? ☞ P. 24.
The LCD monitor and the viewfinder and lens have become dirty (for example, by fingerprints).	■ Gently wipe them with the provided cleaning cloth or other soft fabric. ☞ P. 29.

The camcorder is a microcomputer-controlled device. External noise and interference (from a TV, a radio, etc.) might prevent it from functioning properly. In such cases, first disconnect its power supply unit (battery pack, AC Power Adapter/Charger) and clock battery; and then reconnect it and proceed as usual from the beginning.

Special note on head cleaning
Accumulation of dirt and other particles on the video heads may cause the playback picture to become blurred or interrupted. If such troubles are encountered, please consult your nearest JVC dealer.

SPECIFICATIONS

GENERAL

Format	: VHS PAL standard
Power source	: DC 6 V ⎓
Power consumption	: 5.3 W (LCD monitor off) 8 W (LCD monitor on)
Signal system	: PAL-type
Video recording system	: Luminance: FM recording Color: Converted sub-carrier direct recording Conforms to VHS standard
Cassette	: VHS C cassette
Tape speed (SP)	: 23.39 mm/sec
(LP)	: 11.70 mm/sec
Recording time Max. (SP)	: 45 minutes (with EC-45 cassette)
(LP)	: 90 minutes (with EC-45 cassette)
Operating temperature	: 0°C to +40°C
Operating humidity	: 35% to 80%
Storage temperature	: –20°C to +50°C
Weight	: Approx. 830 g
Dimensions	: 172 (W) x 120 (H) x 82 (D)mm

CAMERA

Pick up	: 1/4"-format CCD
Minimum required illumination	: 12 lx (F2.8)
Illumination range	: 12 to 100,000 lx
Lens	: F2.8, f = 4 to 12 mm, 3:1 power zoom lens
Focus	: Pan-focus (W:40 cm to infinity, T:1.3 m to infinity)
Viewfinder	: Optical zoom viewfinder

LCD MONITOR

Size	: 3" diagonally measured
System	: LCD/TFT active matrix

VIDEO (via VIDEO connector)

Output	: 1 Vp-p, 75 ohms, unbalanced
Input	: 0.5 to 2.0 Vp-p, 75 ohms, unbalanced

AUDIO

Output	: –8 dBs, Low impedance (via AUDIO connector)
Input	: –8 dBs high impedance (via AUDIO connector)
Speaker	: 20 mm round x 1, monaural
Headphone	: 3.5 ø, monaural

AC POWER ADAPTER/BATTERY CHARGER (AA-V11EG) SPECIFICATIONS

Power requirement	: AC 110 – 240 V∿, 50/60 Hz
Power consumption	: 23 W
Output	: DC 8.5 V ⎓, 1.3 A (CHARGE), DC 6.3 V ⎓, 1.8 A (VTR)
Charging system	: Constant current, peak detection, timer controlled
Dimensions	: 150(W) x 42(H) x 68(D) mm
Weight	: Approx. 350 g

CASSETTE ADAPTER (C-P6U) SPECIFICATIONS

Dimensions	: 188 (W) x 25 (H) x 104 (D) mm
Weight	: Approx. 240 g
Accessory	: "R6 (AA)"-size battery x 1

For provided accessories, ☞ P. 5
For optional accessories, ☞ P. 30

Specifications shown are for SP mode unless otherwise specified.
E.&O.E.Design and specifications subject to change without notice.

SECTION 1
DISASSEMBLY

1.1 SERVICE CAUTIONS

1.1.1 Precautions

1. Before disassembling/re-assembling the set as well as soldering parts, make sure to disconnect the power cable.
2. When disconnecting/connecting connectors, pay enough attention to wiring not to damage it.
3. In general, chip parts such as resistor, shorting jumpers (0-ohm resistor), ceramic capacitors, diodes, etc. can not be reused after they were once removed.
4. When installing parts, be careful not to do with other parts as well as not to damage others.
5. When removing ICs, be careful not to damage circuit patterns.

1.1.2 How to read the disassembly and assembly

(For Cabinet Parts)

STEP /LOC NO.	PART	Fig. No.	REMOVAL	
			*UNLOCK/RELEASE/ UNPLUG/UNCLAMP/ UNSOLDER	Note
①	DECK & MONITOR SECTION	C1	11(S1), (S3) *CONNECTORS Ⓐ, Ⓑ	<NOTE 1>
②	FRONT CASE	C2	4(S2)	-
③	MIC	C2	2(S4)	-

① ② ③ ④ ⑤

① : Order of steps in Procedure
When reassembling, preform the step(s) in the reverse order. These nubers are also used as the identification (location) No. of parts Figures.
② : Part to be removed or installed.
③ : Fig. No. showing Procedure or Part Location.
C = Cabinet
CA = Camera
D = Deck
④ : Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped or unsoldered.
P = Spring
W = Washer
S = Screw
* = Unhook, unlock, release, unplug or unsolder.
2(S1) = 2 Screws (S1)
⑤ : Adjustment information for installation.

1.1.3 Connection of the wires

1. Pull the connector structure upward to release the clamp when removing or inserting the flat wire cable.

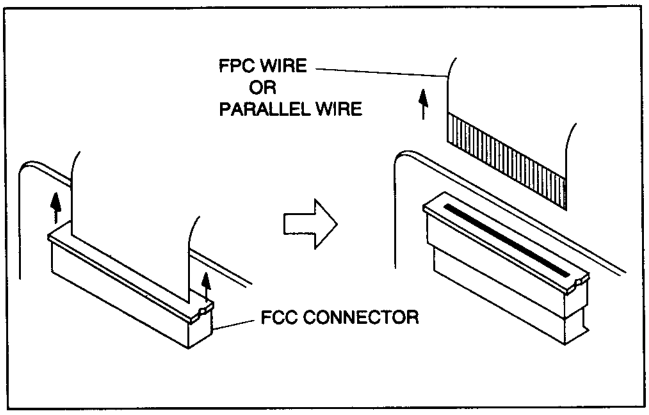


Fig. 1 TYPE A

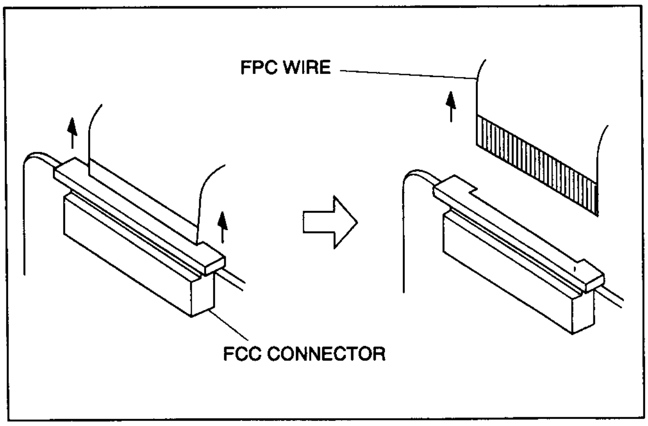


Fig. 2 TYPE B

2. Depress the connector structure downward to release the clamp when removing or inserting the flat wire cable, as indicated below.

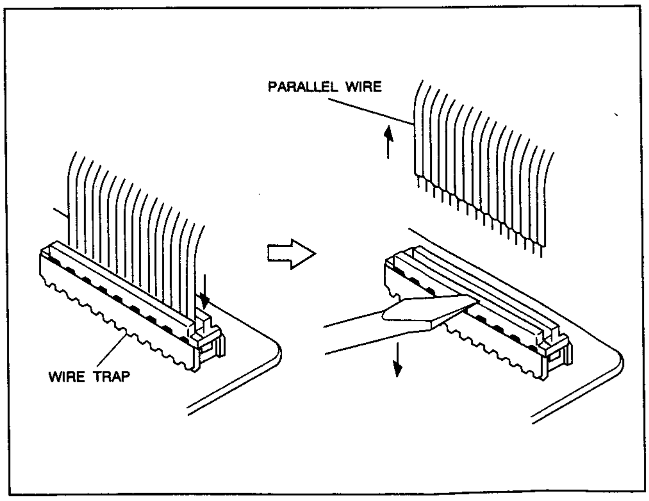


Fig. 3

1.1.4 Main screws to deal with disassembly/assembly

Table 1-1-1 lists screws by their symbols correspond to those shown in figures of this section "Disassembly".

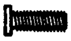
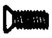
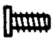
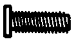
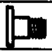
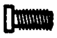
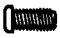
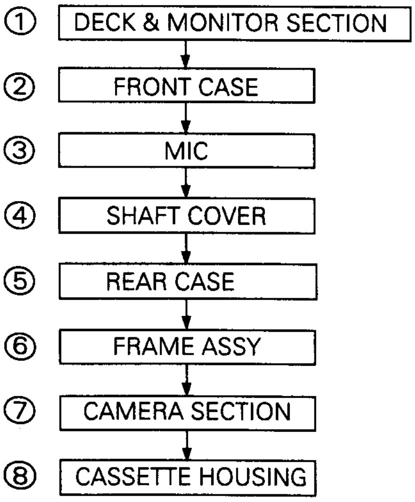
SYMBOL OF SCREW	SHAPE	PART NUMBER
S1		YQM30032-57
S2		SSSH2606M
S3		YQM30032-37
S4		YQM30032-44
S5		YQM30032-2-2
S6		YQM30032-48
S7		YQ43545
S8		SPSH1720M
S9		SPSH1725M
S10		SPSH1730M
S11		SPSN1705Z
S12		SPSP2006Z

Table 1-1-1

1.2 DISASSEMBLY/ASSEMBLY OF CABINET PARTS

1.2.1 Disassembly flow chart

This flowchart indicates the disassembly step for the cabinet parts and P.C. boards in order to gain access to item(s) to be serviced. When reassembling, perform the step(s) in reverse order. Bend, route and dress the flat cables as they were originally.



1.2.2 Disassembly method

STEP /LOC NO.	PART	Fig. No.	REMOVAL	
			*UNLOCK/RELEASE/ UNPLUG/UNCLAMP/ UNSOLDER	Note
①	DECK & MONITOR SECTION	C1	11(S1), (S3) *CONNECTORS Ⓐ, Ⓑ	<NOTE 1>
②	FRONT CASE	C2	4(S2)	–
③	MIC	C2	2(S4)	–
④	SHAFT COVER	C2	2(S3)	–
⑤	REAR CASE	C3	3(S1), 2(S3)	–
⑥	DECK SECTION 1 & 2	C4	2(S5), (S6), 2(S7) *CONNECTOR Ⓒ - Ⓖ Ⓙ, Ⓚ	<NOTE 1>
⑦	CAMERA SECTION	C4	(S5), EARTH PLATE *CONNECTOR Ⓗ	<NOTE 2>
⑧	CASSETTE HOUSING	C5	4(S9)	–

List of Abbreviations:

4(S1) = 4 Screws (S1)
3(L1) = 3 Locking Tabs (L1)
3(SD1) = 3 Solder position (SD1)
3(K1) = 3 Positioning pins (K1)
2(P1) = 2 Springs (P1)
2(W1) = 2 Washers (W1)

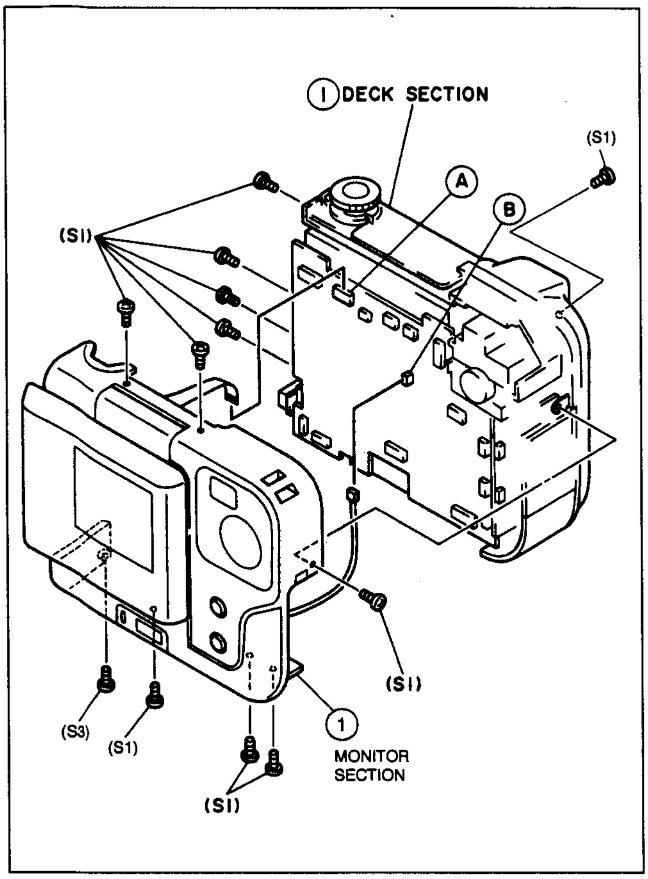

① DECK SECTION
(S1)
(S1)
Ⓐ
Ⓑ
(S1)
(S3)
(S1)
(S1)
① MONITOR SECTION
(S1)

Fig. C1

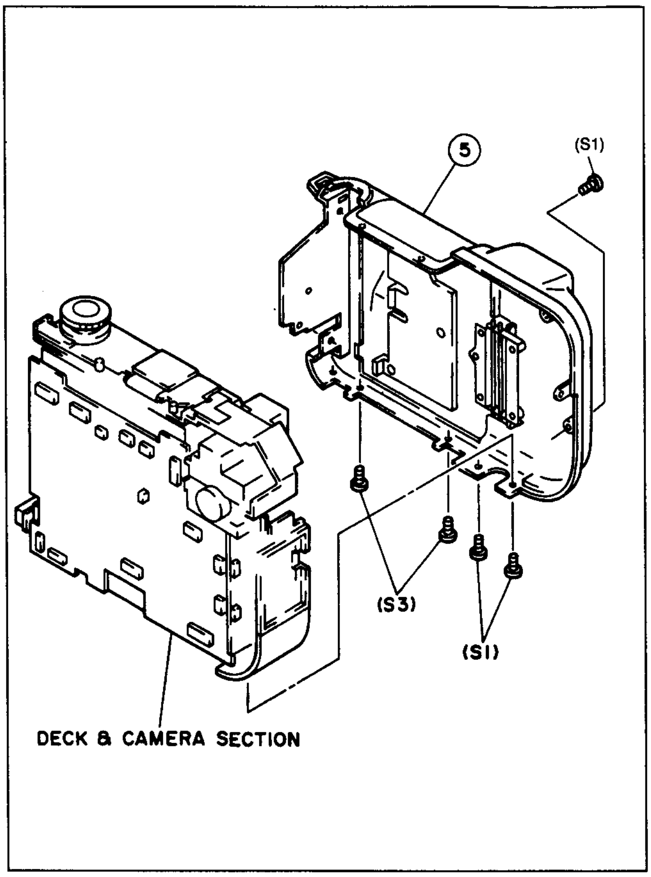

⑤
(S1)
(S3)
(S1)
DECK & CAMERA SECTION

Fig. C3

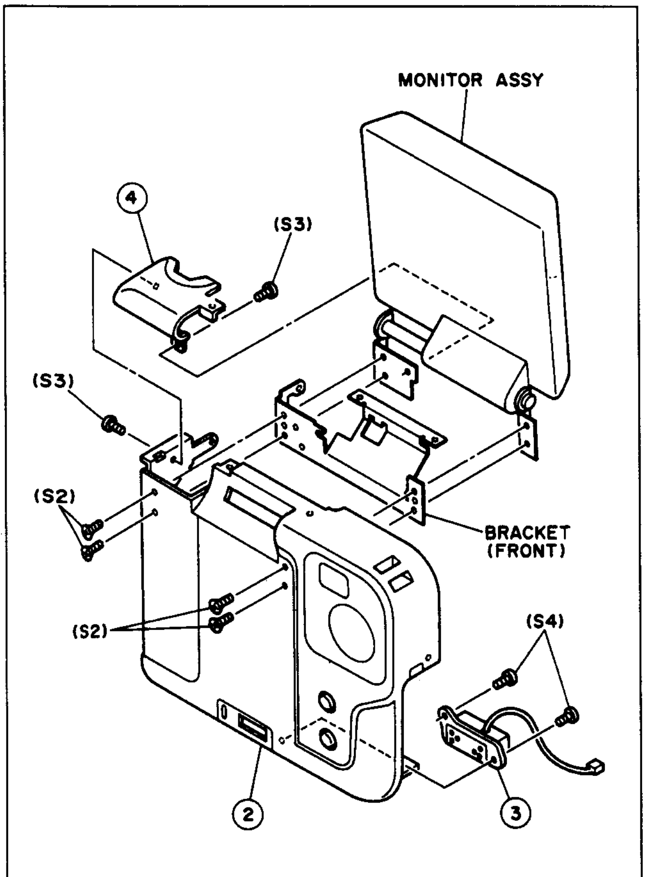

MONITOR ASSY
④
(S3)
(S3)
(S2)
(S2)
BRACKET (FRONT)
(S4)
②
③

Fig. C2

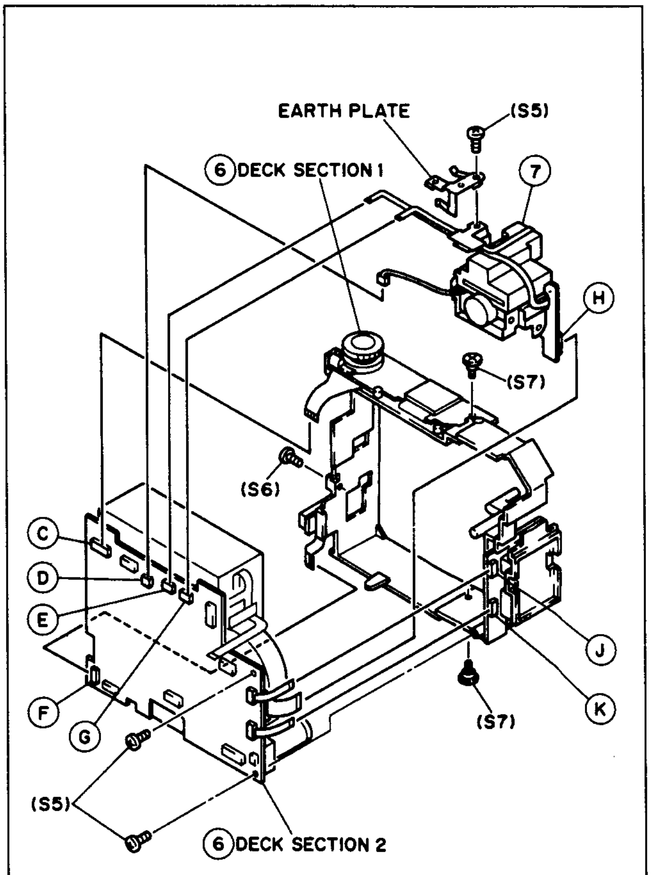

EARTH PLATE
(S5)
⑥ DECK SECTION 1
⑦
Ⓗ
(S7)
(S6)
Ⓒ
Ⓓ
Ⓔ
Ⓕ
Ⓖ
Ⓙ
Ⓚ
(S7)
(S5)
⑥ DECK SECTION 2

Fig. C4

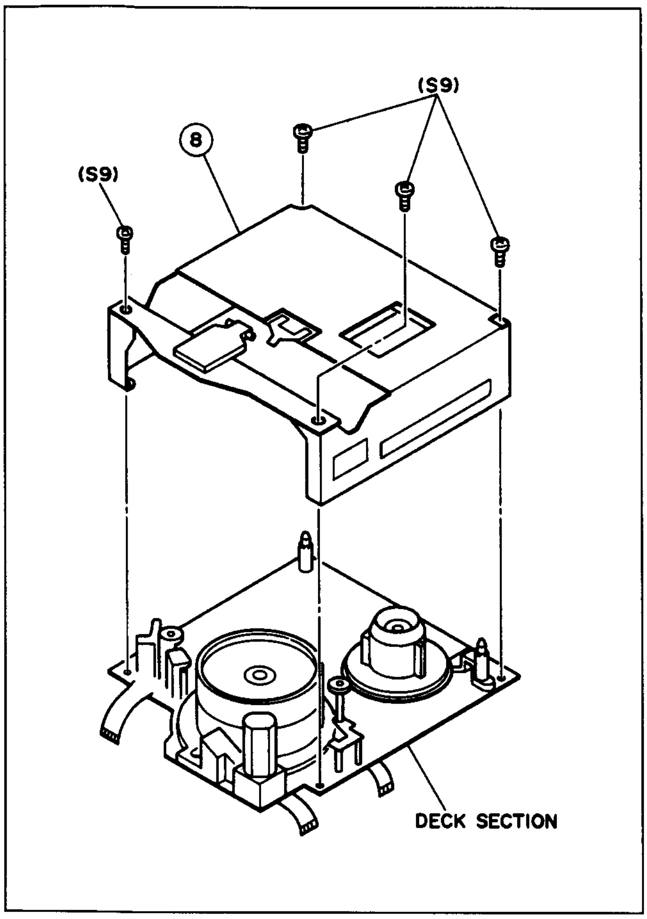


Fig. C5

Reference Notes:
<NOTE 1>
Destination of connectors

Note: ***Three kinds of double-arrows in connection tables respectively show kinds of connector/wires.***

⬌ : Board to Board connector
⇔ : Flat wire
↔ : Wire

Con-nector	No. of Pins	Connector		
Ⓐ	18	MONITOR CN201	⇔	MAIN CN16
Ⓑ	2	MIC	↔	MAIN CN9
Ⓒ	24	OPERATION	⇔	MAIN CN13
Ⓓ	2	ZOOM MOTOR	↔	MAIN CN17
Ⓔ	8	IRIS MOTOR ASSY	⇔	MAIN CN12
Ⓕ	20	BATTERY CN1	⇔	MAIN CN15
Ⓖ	6	OP BLOCK ASSY	⇔	MAIN CN11
Ⓗ	28	M-CCD CN952	⇔	MAIN CN5
Ⓙ	10	JACK CN1	⇔	MAIN CN7
Ⓚ	10	JACK CN2	⇔	MAIN CN6

<NOTE 2>
When remove the camera section, first remove the Base (L/B) assy. (see Fig. D1 page 1-6)

1.3 DISASSEMBLY/ASSEMBLY OF CAMERA PARTS

1.3.1 Disassembly flow chart

This flowchart indicates the disassembly step for the CAMERA parts and P.C. boards in order to gain access to item(s) to be serviced. When reassembling, perform the step(s) in reverse order. Bend, route and dress the flat cables as they were originally.

① M-CCD BOARD ASSY
↓
② OP BLOCK ASSY
↓
③ CCD IMAGE SENSOR
*Refer to section 1.6

1.3.2 Disassembly method

STEP /LOC NO.	PART	Fig. No.	REMOVAL	
			*UNLOCK/RELEASE/ UNPLUG/UNCLAMP/ UNSOLDER	Note
①	M-CCD BOARD ASSY	CA1	2(S12) *CONNECTOR Ⓐ	<NOTE 1> <NOTE 2>
②	OP BLOCK ASSY	CA1	(S11), BRACKET (OP)	-

List of Abbreviations:
4(S1) = 4 Screws (S1)
3(L1) = 3 Locking Tabs (L1)
3(SD1) = 3 Solder position (SD1)
3(K1) = 3 Positioning pins (K1)
2(P1) = 2 Springs (P1)
2(W1) = 2 Washers (W1)

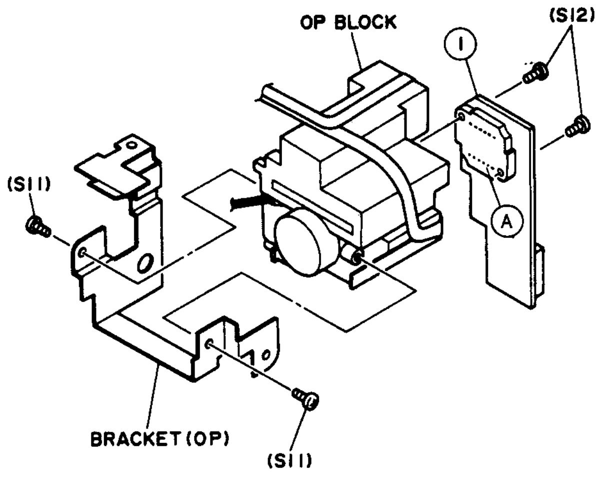


Fig. CA1

Reference Notes:
<NOTE 1>
Destination of connectors
Note: ***Three kinds of double-arrows in connection tables respectively show kinds of connector/wires.***
⬌ : Board to Board connector
⇔ : Flat wire
↔ : Wire

Connector	No. of Pins	Connector
Ⓐ	16	M-CCD CN951 ⬌ CCD SOCKET

<NOTE 2>
1. Remove two screws (S12).
2. Move the M-CCD board in the direction of the rear side. At that time, pay careful attention to pins (connector Ⓐ) of the CCD image sensor so as not to damage them.

1.4 DISASSEMBLY/ASSEMBLY OF DECK PARTS

1.4.1 Disassembly flow chart

This flowchart indicates the disassembly step for the DECK parts and P.C. boards in order to gain access to item(s) to be serviced. When reassembling, perform the step(s) in reverse order. Bend, route and dress the flat cables as they were originally.

① OPERATION BOARD ASSY
↓
② BATTERY BOARD ASSY
↓
③ BASE(L/B) ASSY
↓
④ JACK BOARD ASSY
↓
⑤ A SUB BOARD ASSY
↓
⑥ MAIN BOARD ASSY
↓
⑦ SENSOR BOARD ASSY

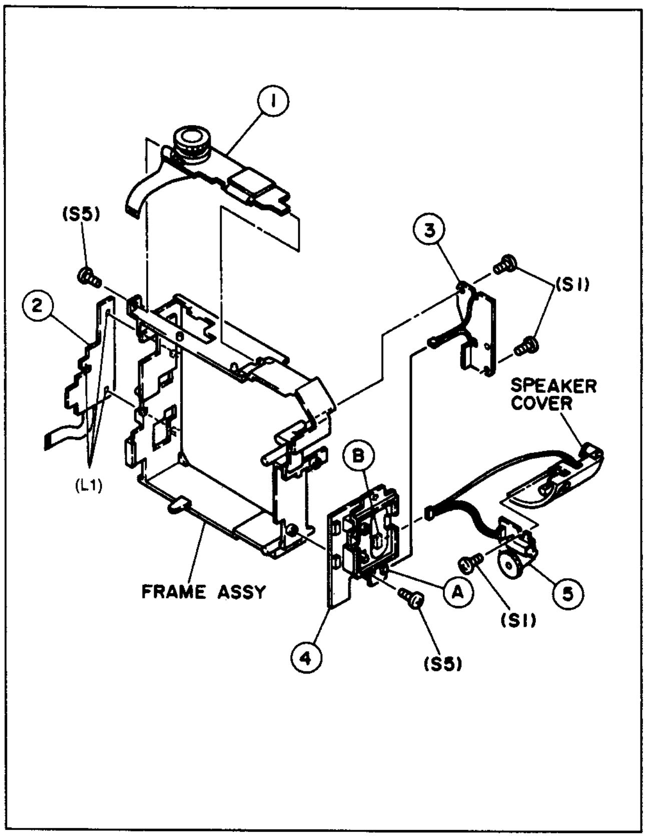


Fig. D1

1.4.2 Disassembly method

STEP /LOC NO.	PART	Fig. No.	REMOVAL	
			*UNLOCK/RELEASE/ UNPLUG/UNCLAMP/ UNSOLDER	Note
①	OPERATION BOARD ASSY	D1	(S5)	–
②	BATTERY BOARD ASSY	D1	3(L1)	–
③	BASE(L/B) ASSY	D1	2(S1), *CONNECTOR Ⓐ	<NOTE 1>
④	JACK BOARD ASSY	D1	(S5)	–
⑤	A. SUB BOARD ASSY	D1	(S1), SPEAKER COVER *CONNECTOR Ⓑ	<NOTE 1>
⑥	MAIN BOARD ASSY	D2	(S8), *CONNECTORS Ⓒ-Ⓗ	<NOTE 1>
⑦	SENSOR BOARD ASSY	D3	2(S9), 4(S10) WORM BRACKET	–

List of Abbreviations:

4(S1) = 4 Screws (S1)
3(L1) = 3 Locking Tabs (L1)
3(SD1) = 3 Solder position (SD1)
3(K1) = 3 Positioning pins (K1)
2(P1) = 2 Springs (P1)
2(W1) = 2 Washers (W1)

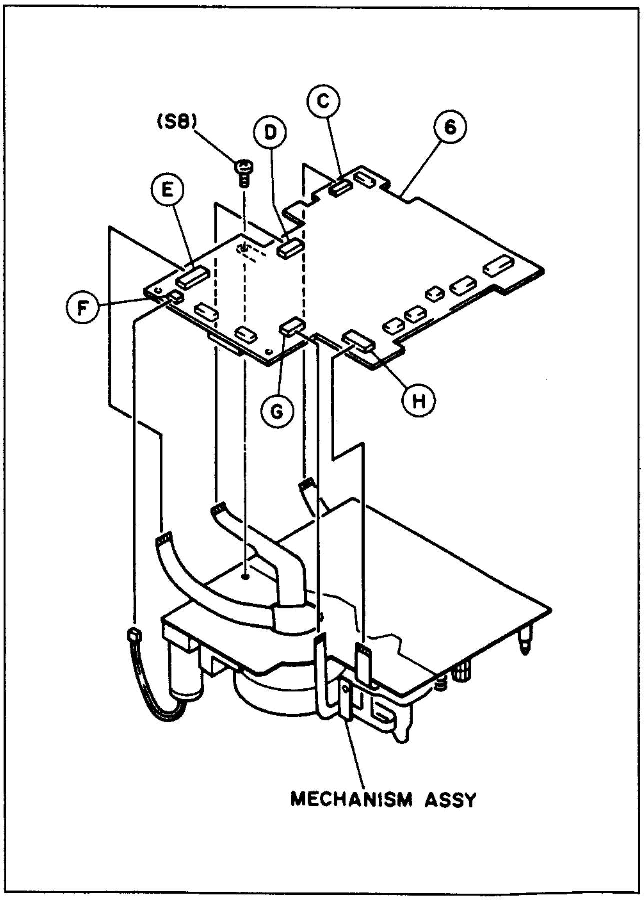


Fig. D2

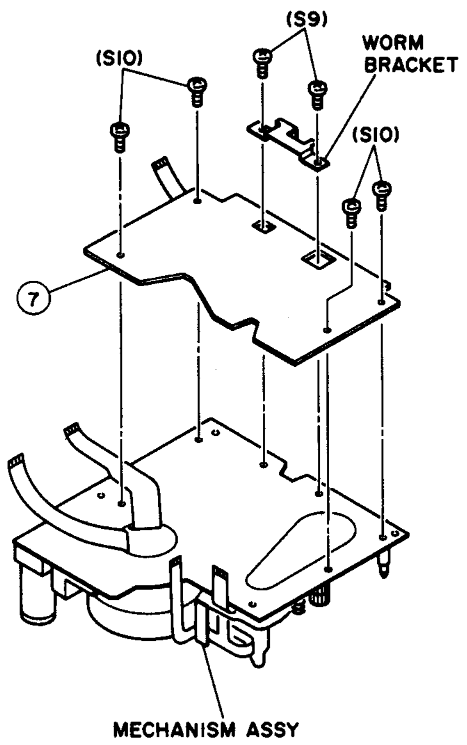


Fig. D3

Reference Notes:
<NOTE 1>
Destination of connectors
Note: ***Three kinds of double-arrows in connection tables respectively show kinds of connector/wires.***

⬌ : Board to Board connector
⇔ : Flat wire
↔ : Wire

Con-nector	No. of Pins	Connector		
Ⓐ	2	JACK CN3	↔	LITHIUM BATTERY
Ⓑ	8	JACK CN4	↔	SPEAKER, A. SUB CN499
Ⓒ	14	SENSOR	⇔	MAIN CN1
Ⓓ	11	VIDEO HEAD	⇔	MAIN CN2
Ⓔ	18	DRUM MOTOR	⇔	MAIN CN3
Ⓕ	2	MODE MOTOR	↔	MAIN CN4
Ⓖ	11	A/C HEAD	⇔	MAIN CN8
Ⓗ	18	CAPSTAN MOTOR	⇔	MAIN CN10

<NOTE 2>
When disconnecting, do it very carefully since the other side connector G is attached to a flexible wire.

1.5 TO TAKE OUT CASSETTE TAPE

When the deck enters the Emergency mode with cassette tape loaded and it cannot be ejected by pressing the EJECT button, take out of the cassette housing according to the following procedure.

1. Disconnect the deck from the power source and remove the REAR CASE and Operation board assy.
2. Remove wires of the mode control motor as shown in the magnified view Ⓐ and connect jumping wires to the terminals.
3. Holding the cassette housing by hand, connect the jumping wires to battery and set the mechanism for unloading as it is in the Eject mode. In the condition, turn the take-up gear (see the magnified view Ⓑ) in the direction of the arrow ⓐ (toward the drum) to wind the tape. Checking up whether the tape is damaged or not, stop holding of the cassette housing by hand.

Note: ***If the mechanism comes into the unloading mode as the cassette tape is not held by hand, it results in tape damage.***

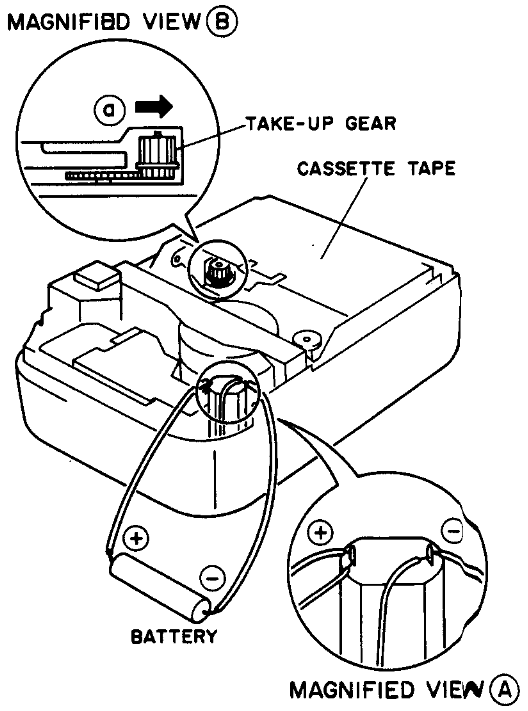


Fig. 1-5-1 CASSETTE TAPE

1.6 REPLACEMENT OF CCD IMAGE SENSOR

Notes:

- *Pay the most careful attention to the transparent glass and optical LPF of the CCD image sensor so a not the soil and damage them. If something is soiled with finger-prints, etc., gently clean it with silicon-processed paper/cloth or chamois.*
- *When the CCD image sensor is shipped from the factory, there are protection seals applied onto the transparent glass. Leave the protector as it is, and take it off just before assembling the CCD image sensor to the OP block.*

1.6.1 Removal of CCD image sensor

1. Remove two screws Ⓐ securing the CCD base, and disassemble the optical LPF holder, the optical LPF, spacer rubber, and CCD image sensor from the CCD base.

1.6.2 Installation of new CCD image sensor

1. Remove the protection seal from a new CCD image sensor. Next, put the spacer rubber, optical filter, filter holder on the CCD image sensor as they are piled up in this order. At that time, make sure of orientation of each item refering to the following table (see Fig. 1-6-1).

Part Name	Orientation
CCD image sensor	Mark is on the right viewed as indicated by the arrow ⓐ.
Spacer rubber	IC side is horizontal.
Optical LPF	Marks are on the right and bottom viewed as indicated by the arrow ⓐ.

2. Then, place the imager holder on the top of the optical LPF holder.
3. Fix the CCD base to OP block with the two screws Ⓐ. At that time, be careful of the orientation.
4. After completion of all P.C. boards to the camera section, observe the monitor to confirm no vignetting caused by the bodytube, rings, lens hood, etc. If no vignetting is observed, it can be said that image's parallel, horizontality and centering are correct.

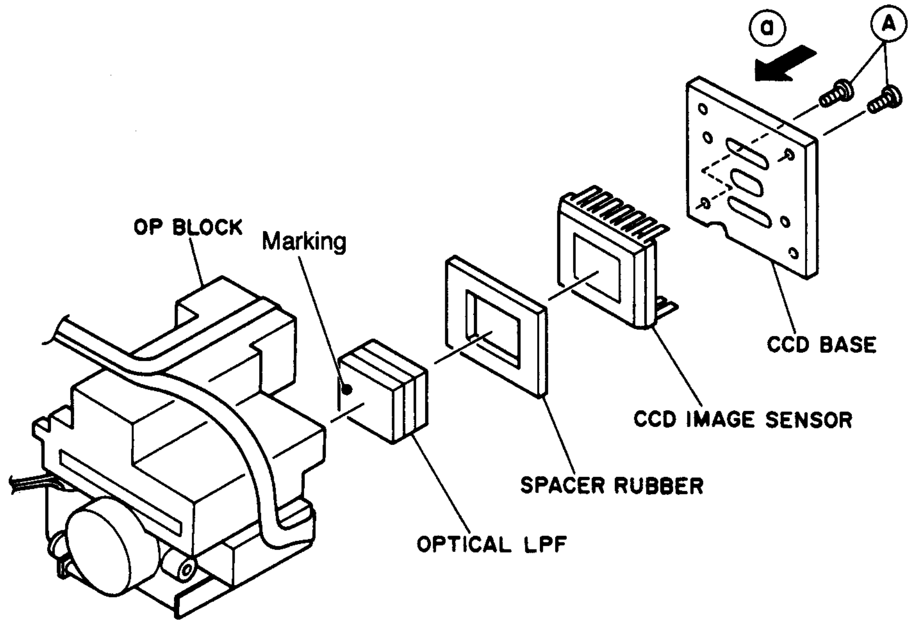


Fig. 1-6-1 CCD image sensor

1.7 EXTENSION CABLE CONNECTION

Connector	Pins	Connection			Part Number	Description
①	28	MAIN CN5	↔	M-CCD CN952	YTU94077-28	*1
②	18	MAIN CN10 MAIN CN16	↔ ↔	CAPSTAN MOTOR MONITOR CN201	YTU94077-18 YTU94074-18	*1 *1
③	11	MAIN CN8	↔	A/C HEAD	YTU94077-11 YTU94074-11	*1
④	10	MAIN CN7 MAIN CN6	↔ ↔	JACK CN1 JACK CN2	YTU94077-10	*1
⑤	8	MAIN CN12	↔	IRIS MOTOR	YTU94077-8 YTU94074-8	*1
⑥	2	MAIN CN17	↔	ZOOM MOTOR	YUJ40095A-2	*2
⑦	20	MAIN CN15	↔	BATTERY CN1	YTU94077-20	*3

NOTES: *1 is used in YTU93075A CABLE KIT.
*2 is used in YTU93061A CABLE KIT.
*3 is used in YTU93070A CABLE KIT.

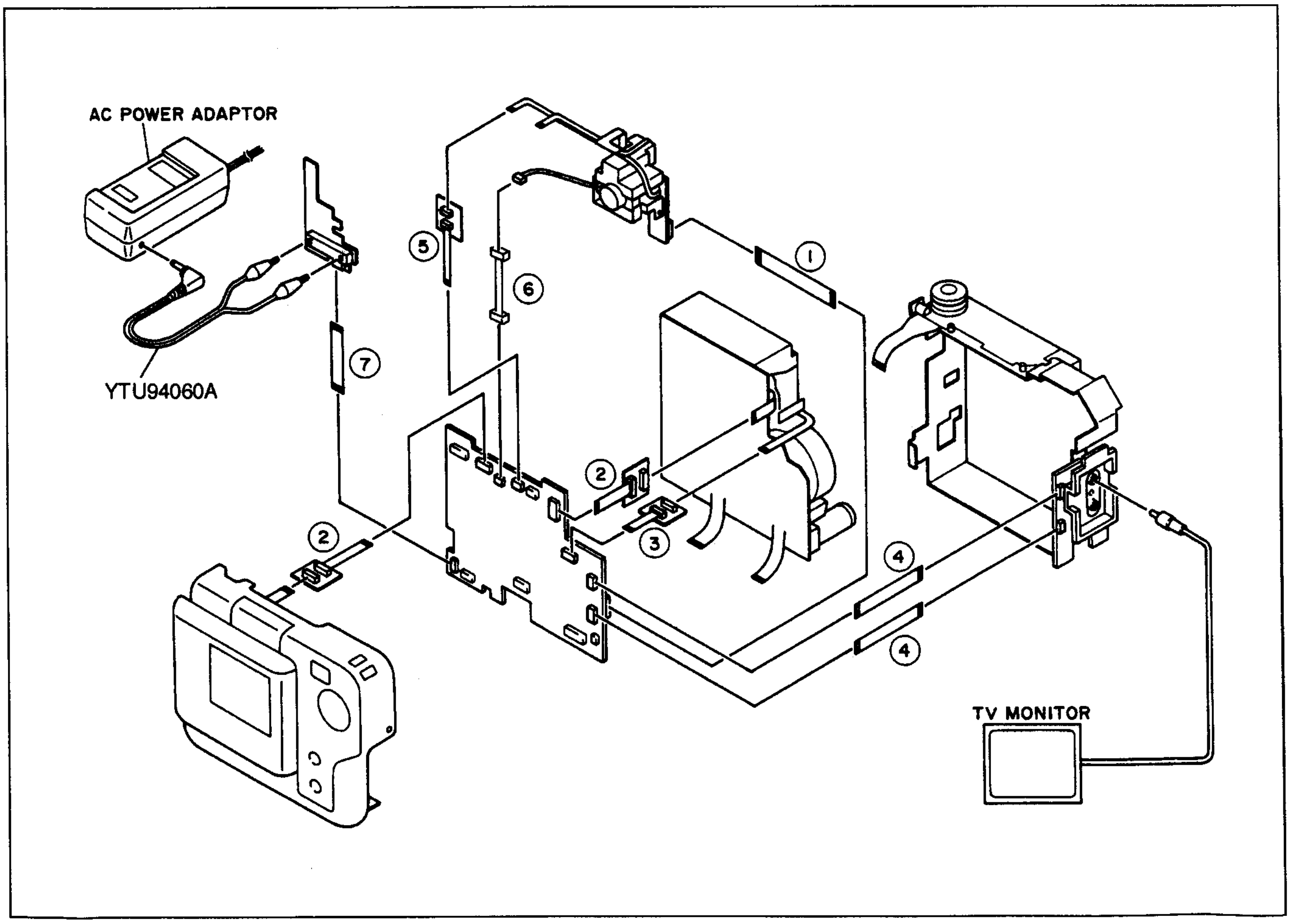


Fig. 1-7-1 EXTENSION CABLE CONNECTION

1.8 TRIPOD ADAPTER CU-V420J (OPTION)

NOTE: *Please contact to JVC service when ordering a tripod adapter CU-V420J.*

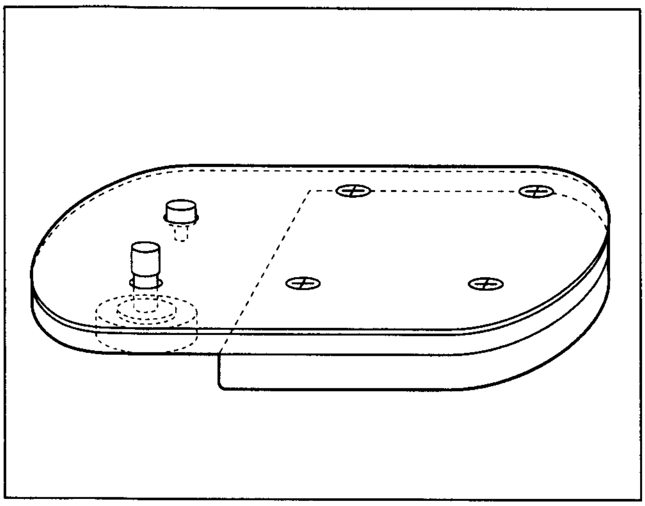


Fig. 1-8-1 TRIPOD ADAPTER CU-V420J

SECTION 2
MECHANISM ADJUSTMENT

2.1 SERVICE CAUTIONS

2.1.1 Precautions

1. Before disassembling/re-assembling the set as well as soldering parts, make sure to disconnect the power cable.
2. When disconnecting/connecting connectors, pay enough attention to wiring not to damage it.
3. When installing parts, be careful not to do with other parts as well as not to damage others. (Pay the most careful attention to the upper drum assy and tape transport mechanism.)

2.1.2 How to read the disassembly and assembly (For Mechanism Parts)

① : Order of steps in Procedure
When reassembling, perform the step(s) in the reverse order. These numbers are also used as the identification (location) No. of parts Figures.

② : Part to be removed or installed.

③ : Location of part.
T = Top
B = Bottom

④ : Fig. No. showing Procedure or Part Location.
M = Mechanism

⑤ : Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped or unsoldered.
P = Spring
W = Washer
S = Screw
* = Unhook, unlock, release, unplug or unsolder.

⑥ : Adjustment information for installation.
(+) = Refer to Exploded Views for Lubrication information.

2.1.3 Main screws and washers to deal with disassembly/assembly

Table 2-1-1 lists screws and washers by their symbols which correspond to those shown in figures of this section "Disassemby and Assembly".

SYMBOL OF WASHER	SHAPE	PART NUMBER
S1		SPSH1730M
S2		SPSH1740Z
S3		YQ43816
S4		SSSH1730M
S5		SPSH1740M
S6		SPSH1720M

SYMBOL OF WASHER	SHAPE	PART NUMBER
W1		PQM30017-27
W2		Q03093-835
W3		PQM30017-25

Table 2-1-1

(For Mechanism Parts)

STEP/LOC. No.	PART		Fig. No.	REMOVAL	INSTALLATION
				*UNHOOK/UNLOCK /RELEASE/UNPLUG /UNSOLDER	ADJUSTMENT CONDITION NOTE
①	REEL DISK (SUP)	T	M1	(W1), (W2)	–
②	IMP. ROLLER ASSY	T	M1	(S1)	–
③	TENSION ARM ASSY	T	M1	(W1)	–
④	SLANT ARM ASSY	T	M1	(W1)	–
⑤	CANCEL LEVER ASSY	T	M2	(W1)	–
⑥	EJECT LEVER ASSY	T	M2	(W2)	–
⑦	CASSETTE BLOCK	T	M2	(S13)	–

↑ ① ↑ ② ↑ ③ ↑ ④ ↑ ⑤ ↑ ⑥

2.2 DISASSEMBLY/ASSEMBLY OF MECHANISM PARTS

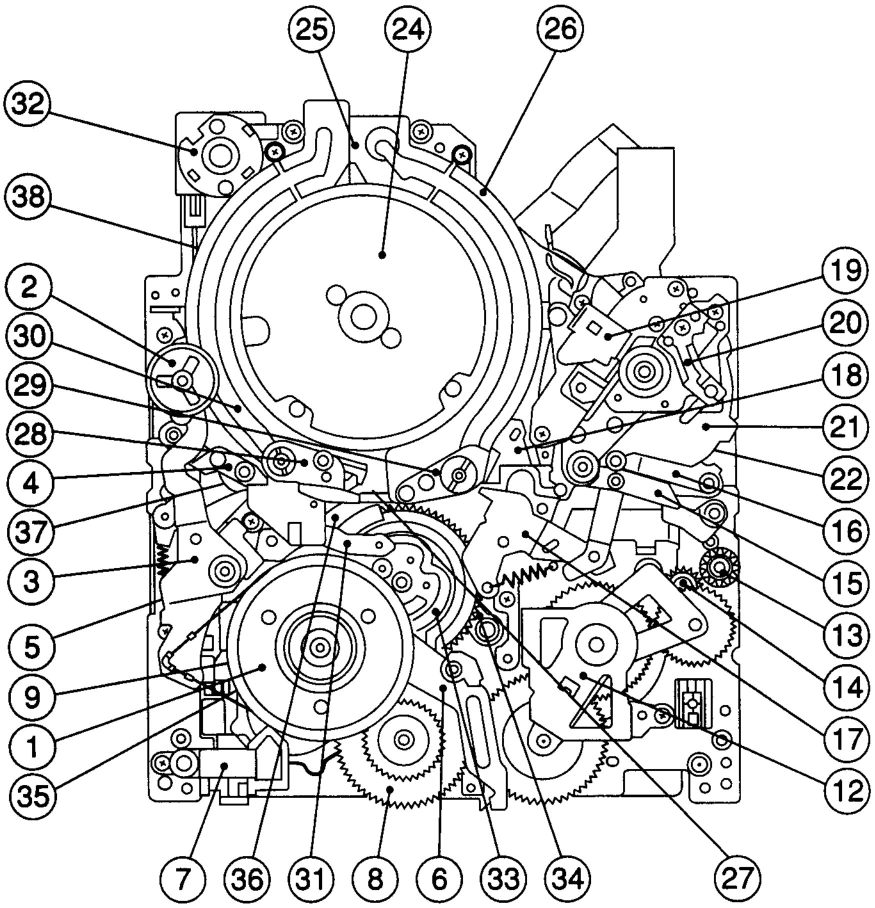
This procedure starts with the condition that the cabinet parts and deck parts. Also, all the following procedures for adjustment and parts replacement should be performed in STOP mode. When reassembling, perform the step(s) in the reverse order.

STEP/LOC. No.	PART		Fig. No.	REMOVAL	INSTALLATION
				*UNHOOK/UNLOCK /RELEASE/UNPLUG /UNSOLDER	ADJUSTMENT CONDITION NOTE
①	REEL DISK (SUP)	T	M1	(W1), (W2)	–
②	IMP. ROLLER ASSY	T	M1	(S1)	–
③	TENSION ARM ASSY	T	M1	(W1), (P1)	–
④	SLANT ARM ASSY	T	M1	(W1), (P2)	–
⑤	CANCEL LEVER ASSY	T	M2	(W1)	–
⑥	EJECT LEVER ASSY	T	M2	(W1)	–
⑦	CASSETTE GUIDE (L) ASSY	T	M2	(S2)	–
⑧	SUPPLY CLUDTCH ASSY	T	M2	(W1)	–
⑨	WHEEL GEAR	T	M2	(W1)	See, Adjustment procedure for Section 2.4
⑩	SENS BOARD ASSY	B	M3	4(S1)	–
⑪	TIMING BELT	B	M3	–	–
⑫	CENTRE PULLEY UNIT	T/B	M3	2(S1)	–
⑬	TU GEAR	T	M3	(W1)	–
⑭	BRAKE SUB GEAR	T	M3	(W1)	–
⑮	P.R ARM ASSY	T	M3	(W3)	–
⑯	TU GUIDE ARM ASSY	T	M3	(W1)	–
⑰	LINK ARM ASSY	T	M4	(W3)	–
⑱	LED GUIDE	T	M4	(S1)	–
⑲	A/C HEAD UNIT	T	M4	2(S3)	–
⑳	SLANT POLE BASE ASSY	T	M5	(S3)	–
㉑	CAP MOTOR ASSY	T	M5	3(S3)	–
㉒	MOTOR BASE	T	M5	2(S2), (S4)	–
㉓	BRUSH	B	M6	(S1)	–
㉔	DRUM FINAL	T/B	M6	2(S2)	–
㉕	CATCHER	T	M6	2(S2)	–
㉖	GUIDE RAIL	T	M6	8(S1)	–
㉗	DRUM SPACER	T	M6	2(S2)	–
㉘	POLE BASE (SUP)	T	M6	–	–
㉙	POLE BASE (TU)	T	M6	–	–
㉚	COVER PLATE	T	M7	–	–
㉛	DRIVE LEVER ASSY	T	M7	–	–
㉜	MOTOR BRACKET ASSY	T	M7	3(S2)	–
㉝	CONTROL CAM	T	M8	(W3)	See, Adjustment procedure for Section 2.4
㉞	LINK LEVER ASSY	T	M8	–	–
㉟	MIDDLE GEAR	T	M8	–	–
㊱	LOADING GEAR(T) ASSY	T	M8	(W1)	See, Adjustment procedure for Section 2.4
㊲	LOADING GEAR(S) ASSY	T	M8	(W1)	–
㊳	LOADING RING ASSY	T	M8	4(S2)	See, Adjustment procedure for Section 2.4

List of Abbreviations:

4(S1) = 4 Screws (S1)
3(L1) = 3 Locking Tabs (L1)
3(SD1) = 3 Solder position (SD1)
3(K1) = 3 Positioning pins (K1)
2(P1) = 2 Springs (P1)
2(W1) = 2 Washers (W1)

TOP VIEW


25
24
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38
2
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29
28
4
37
3
5
9
1
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19
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16
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13
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17
12
7
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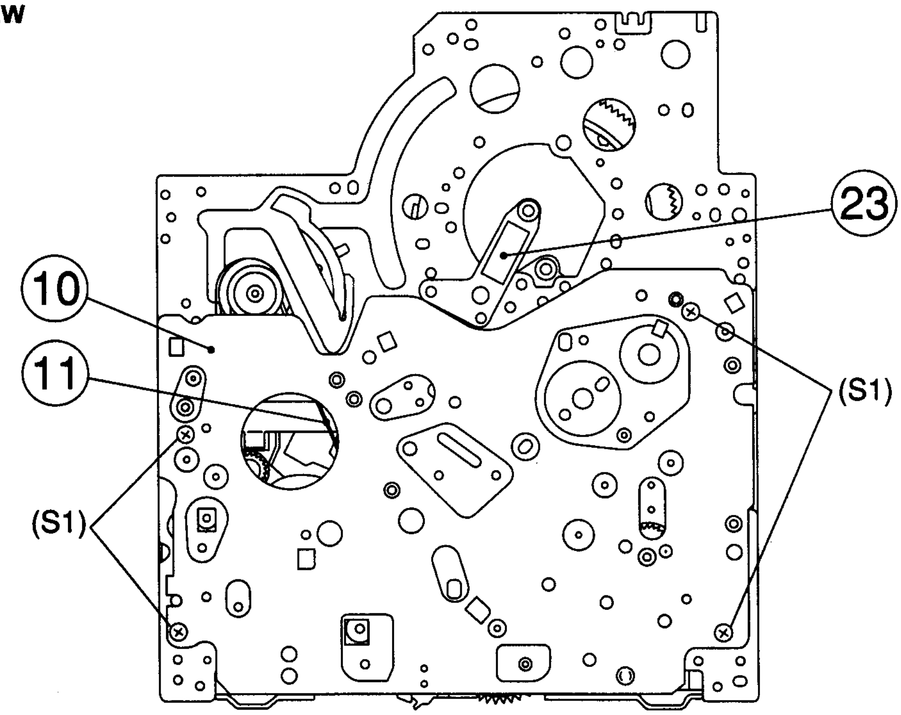
31
8
6
33
34
27

BOTTOM VIEW


23
10
11
(S1)
(S1)

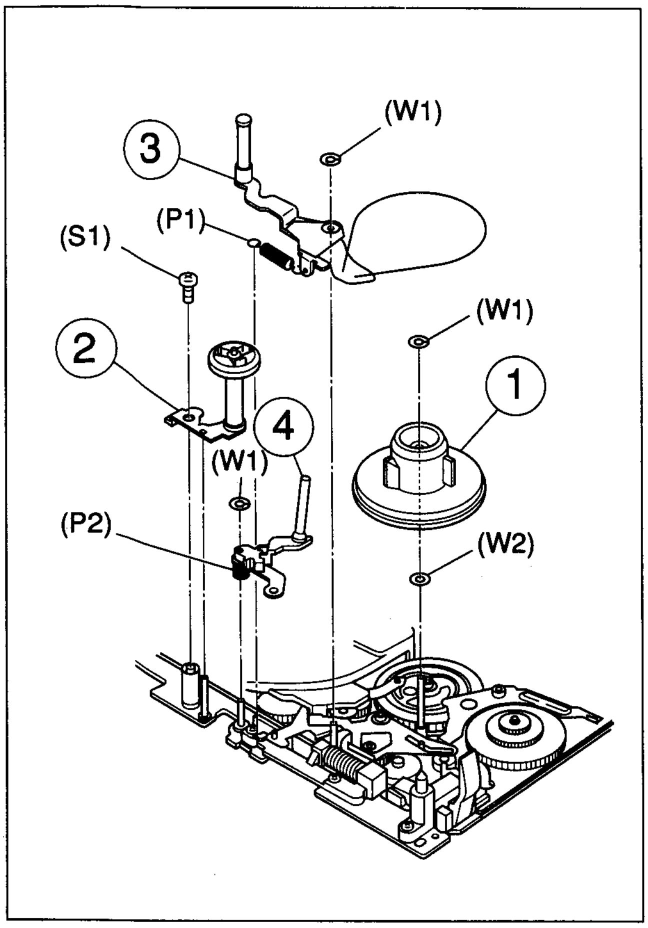
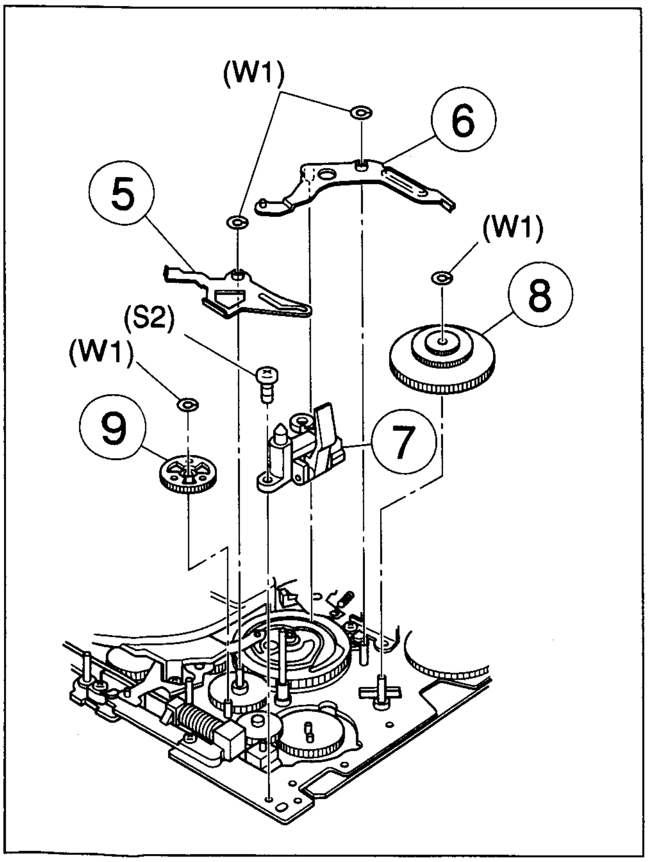

(W1)
3
(P1)
(S1)
(W1)
2
1
4
(W1)
(P2)
(W2)

Fig. M1


(W1)
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5
(W1)
8
(S2)
(W1)
9
7

Fig. M2

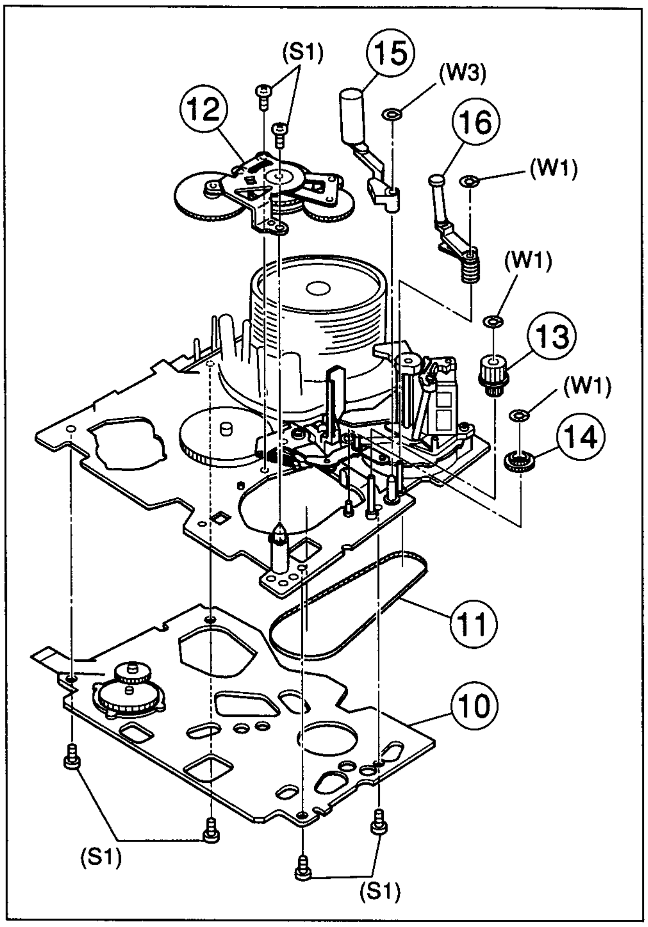

(S1)
15
(W3)
12
16
(W1)
(W1)
13
(W1)
14
11
10
(S1)
(S1)

Fig. M3

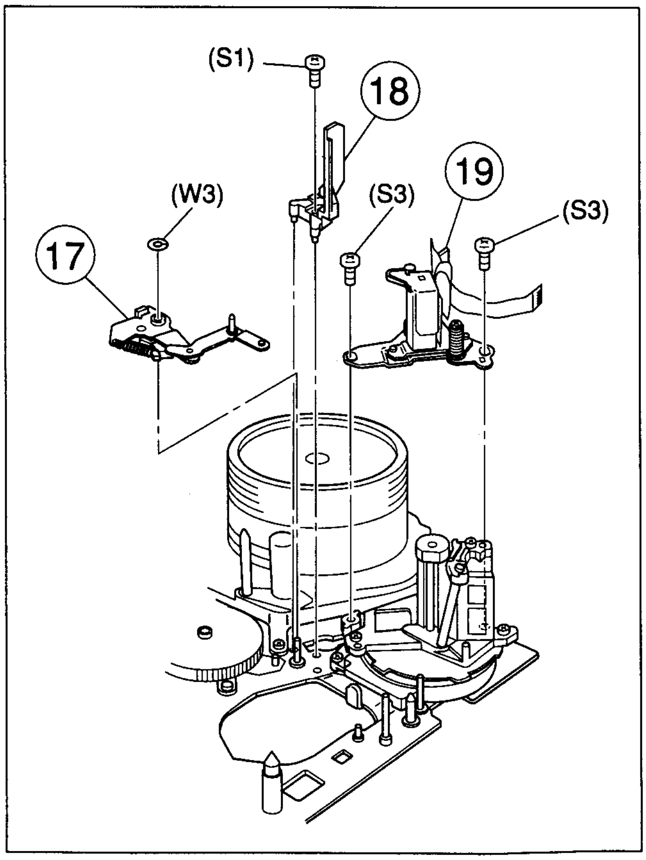

(S1)
18
19
(W3)
(S3)
(S3)
17

Fig. M4

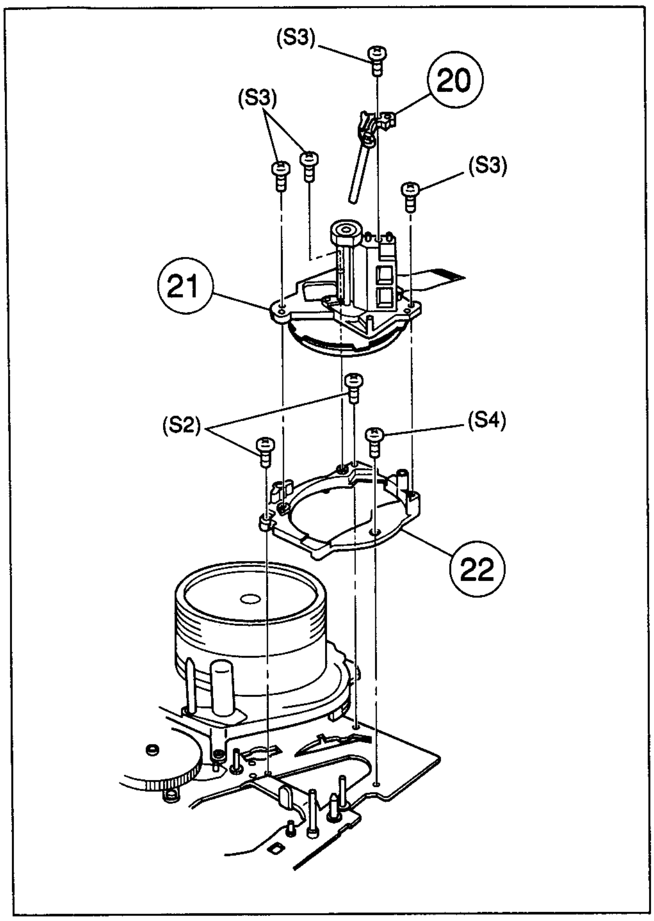

(S3)
20
(S3)
(S3)
21
(S2)
(S4)
22

Fig. M5

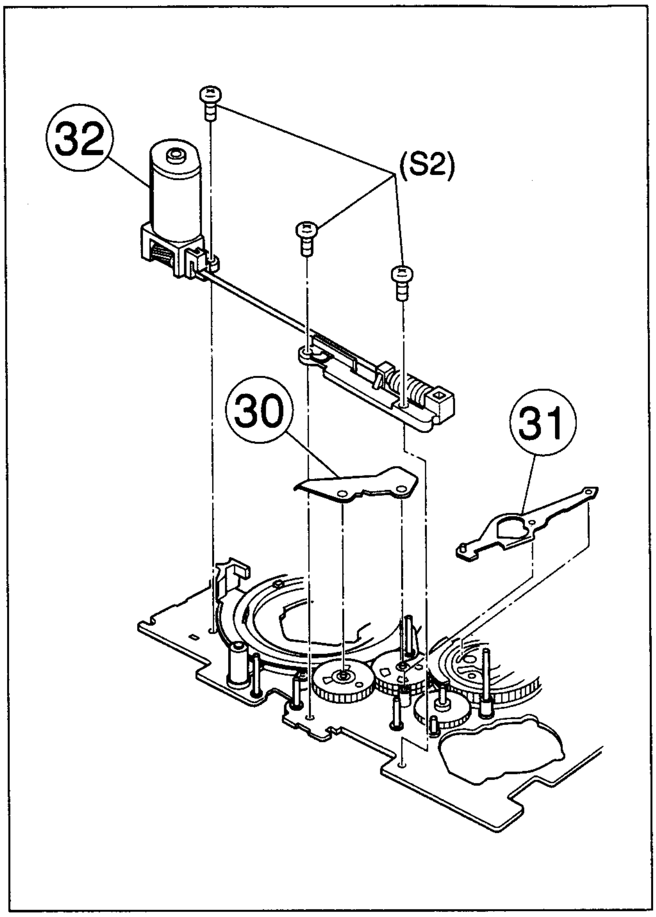


Fig. M7

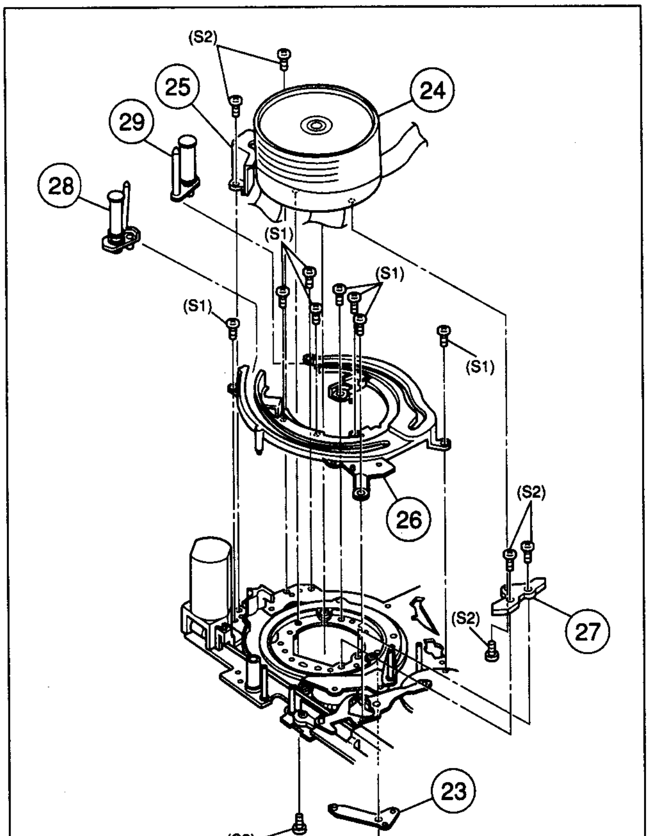

(S2)
25
24
29
28
(S1)
(S1)
(S1)
(S1)
26
(S2)
(S2)
27
23
(S2)
(S6)

Fig. M6

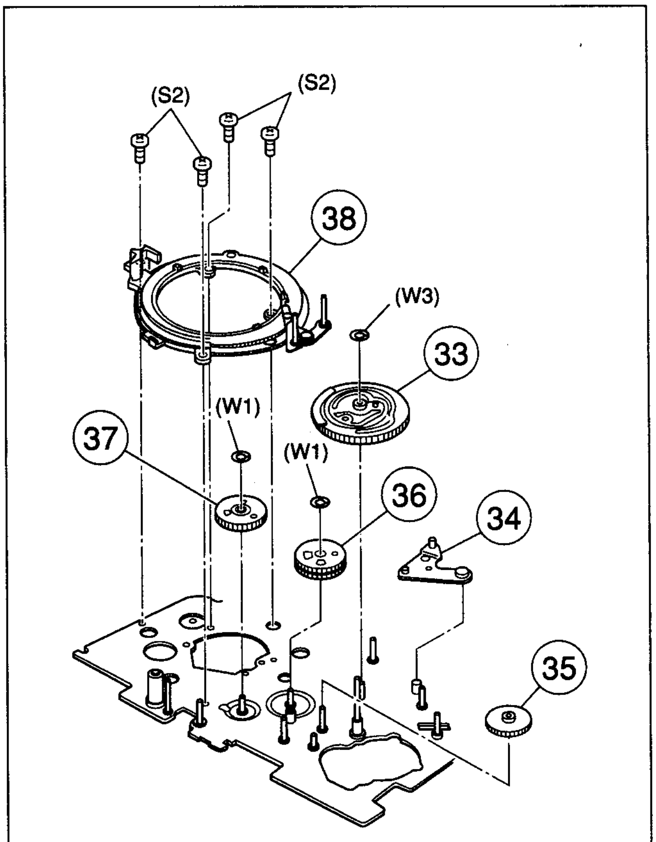

(S2)
(S2)
38
(W3)
33
37
(W1)
(W1)
36
34
35

Fig. M8

2.3 REPLACEMENT OF UPPER DRUM

Note: *Be very careful not to touch any hand of a new upper drum as well as not to damage the drum.*

2.3.1 Removal of upper drum

1. Carefully unsolder at 10 points shown in Fig. 2-3-1 on the UPPER DRUM board.

   Note: *If solder is not completely removed, it may cause damage of the head pins when the upper drum is removed.*

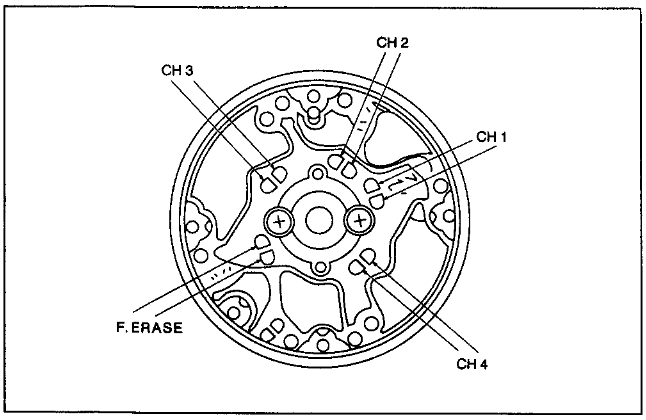


Fig. 2-3-1 Upper drum replacement (1)

2. Remove two screws and draw out the upper drum in the direction of the arrow.

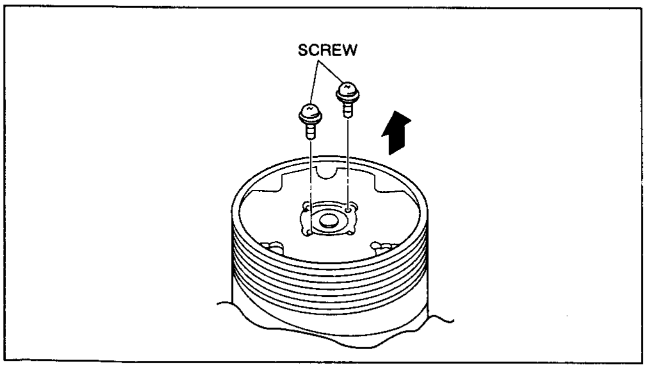


Fig. 2-3-2 Upper drum replacement (2)

3. When it is hard to remove the upper drum, set the upper drum removal tool (YTU94031A) with the screws which are once removed in the step 2, and tighten the center screw to remove it easily.

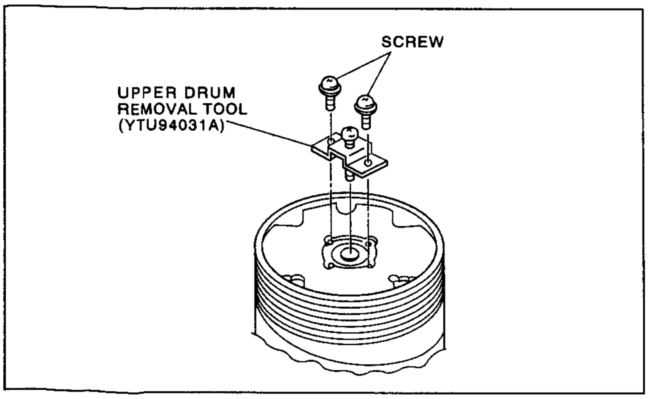


Fig. 2-3-3 Upper drum replacement (3)

2.3.2 Installation of new upper drum

1. Before installing a new upper drum, insert a soldering iron (50 W) into the hole of the upper drum and heat it for about 3 to 5 minutes to expand it.

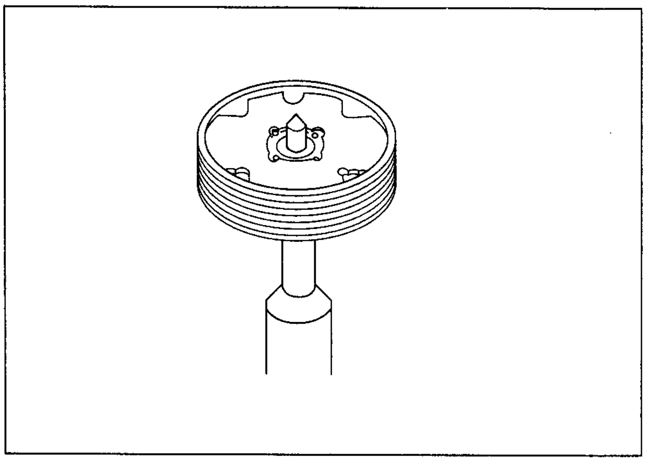


Fig. 2-3-4 Upper drum replacement (4)

2. Install the new upper drum so that its arrow marking is positioned at an angle of 140° to the rotary transformer's mold (having no relay pin) of the lower drum.

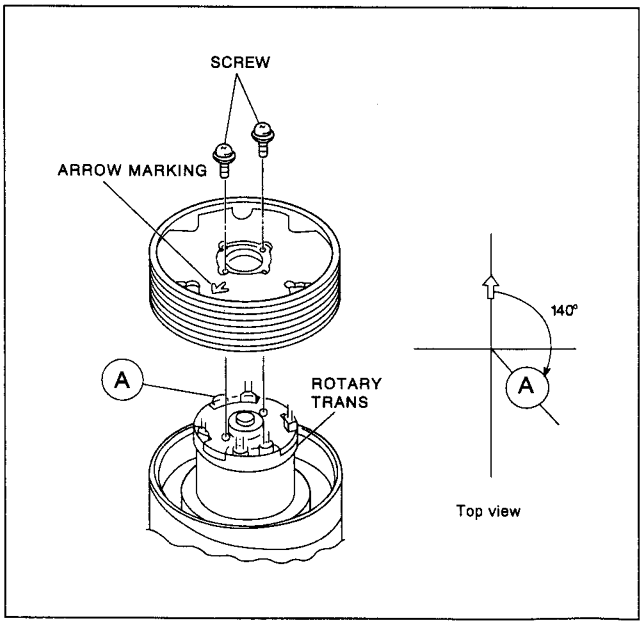


Fig. 2-3-5 Upper drum replacement (5)

3. Tighten the screws lightly first, then, alternately tighten them gradually as the upper drum is cooled.
4. After replacement finishes, make sure to check up and deck section adjust.

2.4 CHECKUP AND ADJUSTMENT OF MECHANISM PHASE

Note: *Pay careful attention to the installing order and phase of mechanism parts of the loading system.*

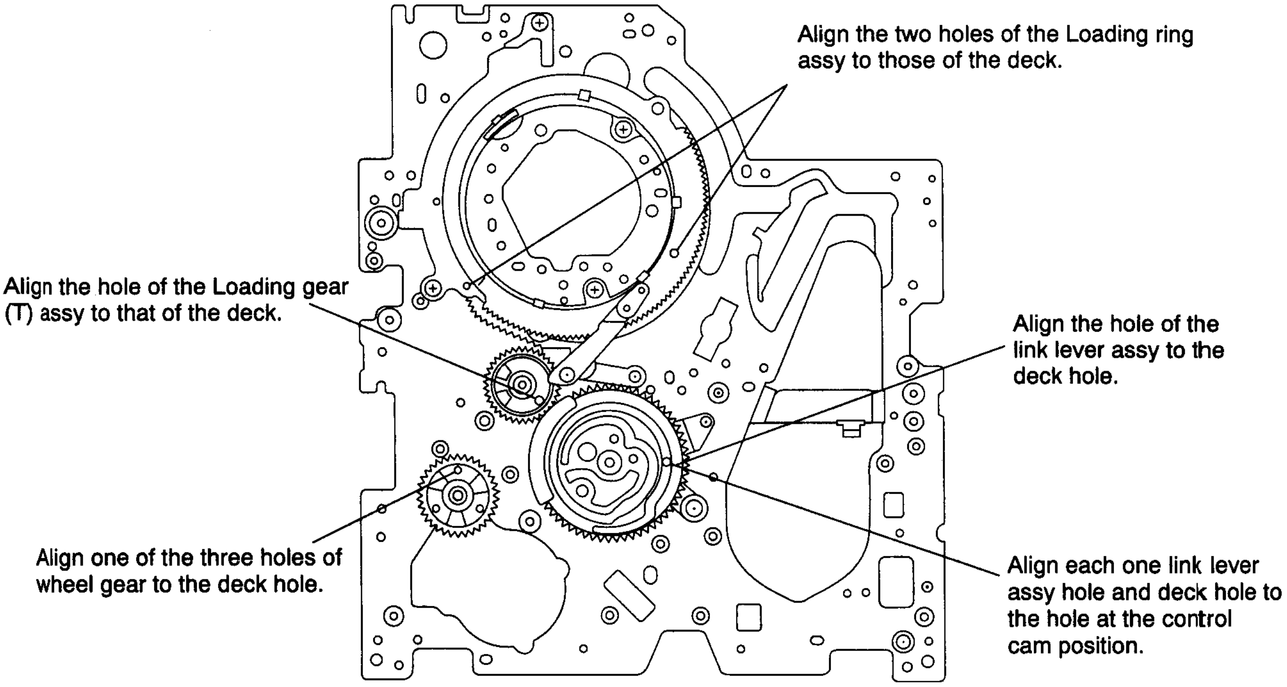

Align the two holes of the Loading ring assy to those of the deck.
Align the hole of the Loading gear (T) assy to that of the deck.
Align the hole of the link lever assy to the deck hole.
Align one of the three holes of wheel gear to the deck hole.
Align each one link lever assy hole and deck hole to the hole at the control cam position.

Fig. 2-4-1 TOP OF MAIN DECK

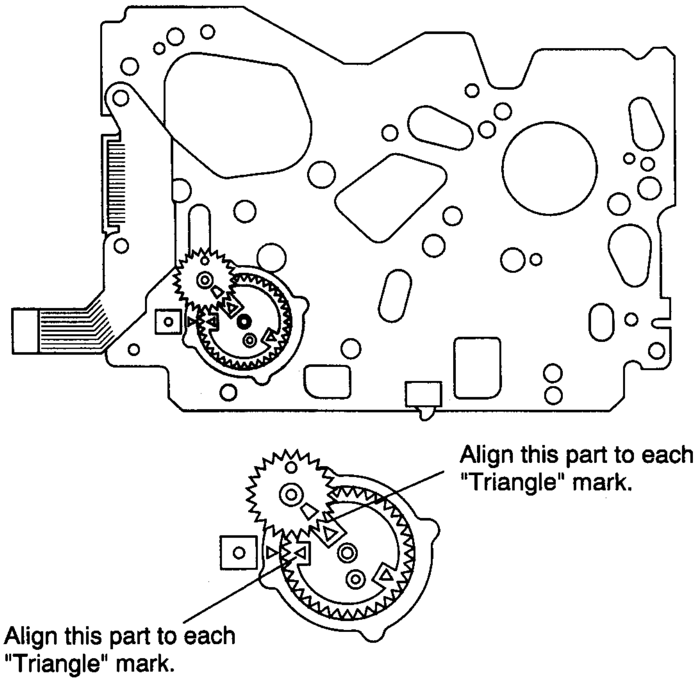

Align this part to each "Triangle" mark.
Align this part to each "Triangle" mark.

Fig. 2-4-2 SENSOR BOARD

2.5 TAPE TRANSPORT ADJUSTMENT

In most cases the deck section is in need electrical adjustment, it results from replacement of worm mechanical parts or video heads. In the event of malfunction with electrical circuits, troubleshouting with the aid of proper test instruments most be done first, and then commence necessary repair, replacement and adjustment, etc.

2.5.1 Required adjustment tools

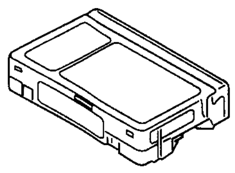
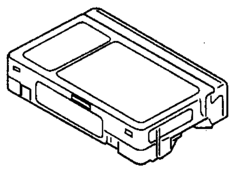
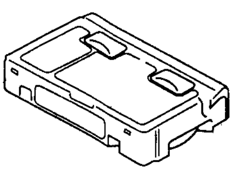
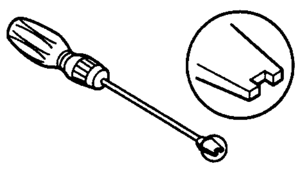
Alignment tape for SP interchangeability (MHPE-C)	Alignment tape for LP interchangeability (MHPE-LC)
	
Cassette torque meter PUJ50431-2	Roller driver PTU94002
	

Table 2-5-1

2.5.2 Back tension

1. Set a cassette torque meter onto the deck and measure the back tension in standard REC mode to confirm that the back tension is 13 – 20 gr-cm.
2. If not, replace the tension band.
   When the value widely fluctuates in the measurement, replace the supply reel disk.
3. With the cassette torque meter, confirm that the play torque is 15 – 25 gr-cm.
   If necessary, replace the center pully unit.

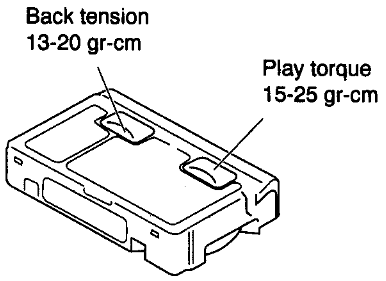


Fig. 2-5-1 Cassette torque meter

2.5.3 Tape pattern

1. Observe signal at pin 1 of CN14 (V. TP FM) with external trigger from pin 7 of CN14(V. H. FF) on the MAIN board.
2. Play back the SP stairstep signal of the alignment tape.
3. Set the tracking control to the centre position by simultaneously pressing the tracking (–) and (+) buttons and maximize the FM waveform by the tracking button.
4. If the observed FM waveform is not flat, adjust the height of the supply or take-up guide roller with the roller driver (PTU94002).

   Note: *To prevent the tape from damage, turn the guide rollers slowly.*

5. By operating the tracking button (both in + and – directions) in the manual tracking mode, vary the output level of the FM waveform from maximum to minimum and vice versa to confirm that the waveform varies nearly in a flat shape.
6. When the FM waveform breaks in the level varying process, subtly adjust the height of guide rollers at every breaking point so that the waveform varies as flat as possible.
   Repeat the above steps 5. and 6. several times to confirm that the waveform is flat as a whole.
7. Play the LP stair step signal of alignment tape and adjust the tracking control to maximize the FM waveform, confirm that FM waveform variation is always flat.
8. Record the signal and play it back in both of the SP and LP mode, and confirm that the FM waveform is flat in both modes.

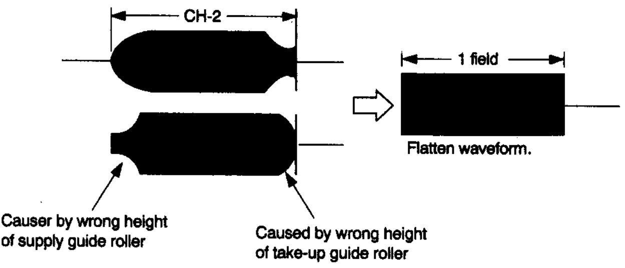

CH-2
1 field
Flatten waveform.
Causer by wrong height of supply guide roller
Caused by wrong height of take-up guide roller

Fig. 2-5-2 FM waveform-1

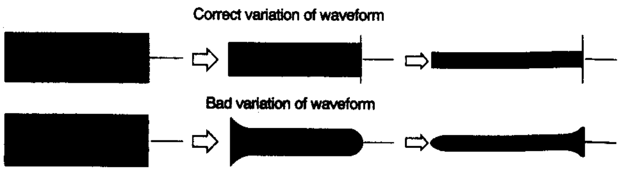


Fig. 2-5-3 FM waveform-2

9. Through the above steps, confirm that there occur no wrinkling and damage in the tape around the pinch roller and TU guide pole whenever the deck is in operation of Loading/Unloading, Search Rewind and at mode change from Search Rewind to play mode. If wrinkling or damage in the tape occurs around the TU guide pole, adjust the angle (slant) of the A/C head to the tape. So that the tape normally runs along the lower flange of the guide pole.

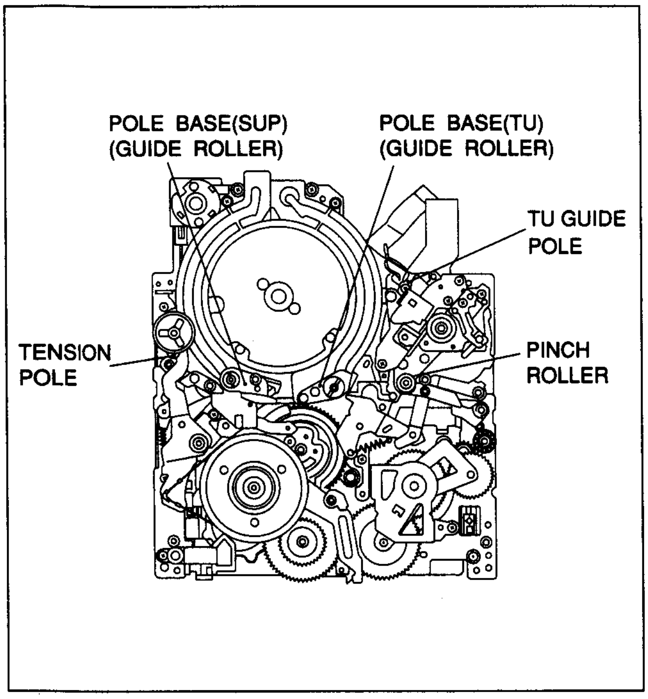

POLE BASE(SUP)
(GUIDE ROLLER)
POLE BASE(TU)
(GUIDE ROLLER)
TU GUIDE
POLE
TENSION
POLE
PINCH
ROLLER

Fig. 2-5-4 Tape transport system

2.5.4 A/CTL head height & azimuth

1. Play back the SP 7 kHz segment of the alignment tape and observe waveform at AUDIO OUT.
2. Turn the screw Ⓐ, Ⓑ (tilt) and Ⓒ (azimuth) gradually (at an angle of 45°approx.) in the same direction to obtain the maximum output level.
3. As final fine adjustment, adjust the screw Ⓑ for minimum level fluctuation and the screw Ⓒ for maximum output level.

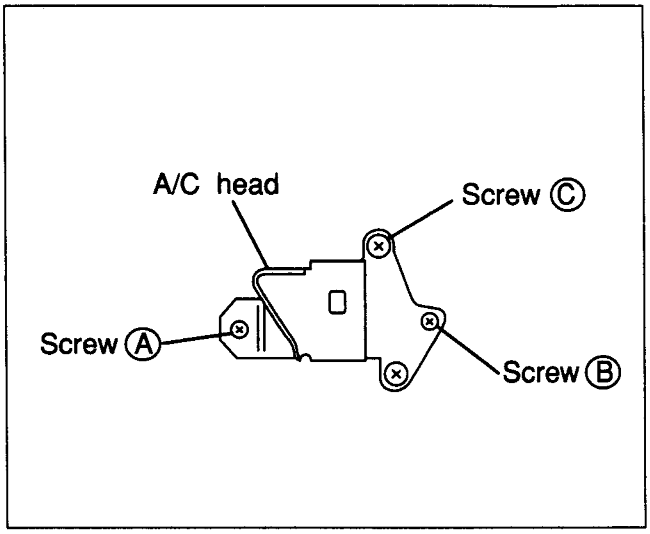

A/C head
Screw Ⓒ
Screw Ⓐ
Screw Ⓑ

Fig. 2-5-5 A/C head

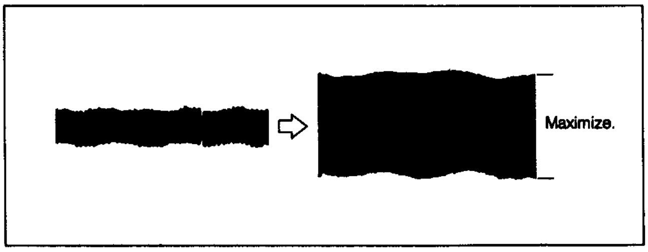


Fig. 2-5-6 Audio signal

2.5.5 Phase of control head (X value)

1. Play back the SP stairstep signal of the alignment tape and observe signal at pin 1 of CN14(V.TP FM) with external trigger from pin 7 of CN14(V.H.FF) on the MAIN board.
2. Operate the tracking button in the centre and manual tracking mode by pressing the tracking (+) and (–) buttons and confirm that the FM output level is maximum at the centre position as shown in Fig. 2-5-8.
3. If necessary, slightly loosen the setscrews Ⓓ and Ⓔ and insert the Tweezers into the notch and guide hole to move the A/C head fully in the direction of the capstan to the extent.
4. Gradually move the A/C head toward the drum to find the position where the FM output level maximum for the first time (a' – b' in Fig. 2-5-8).
5. Fine adjust the phase of the A/C head and tighten the screws Ⓓ and Ⓔ at the point ⓐ.
6. Play back the LP stairstep signal of the alignment tape and confirm that the FM waveform is maximized at the center detent position of the tracking button.
7. Confirm that the above steps 2. and 6. are satisfactory at the same time.
   If not, repeat the steps 3. through 6..

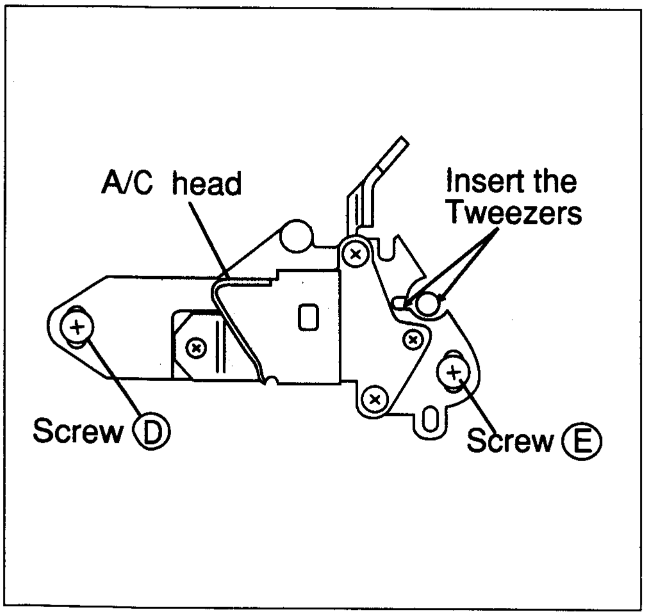


Fig. 2-5-7 Phase of control head

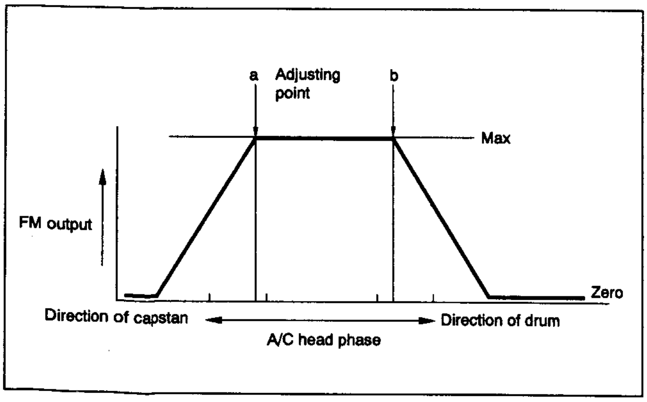


Fig. 2-5-8 Phase adjustment point of control head

2.6 REMARKS

2.6.1 Cleaning

1. For cleaning of the upper drum (particularly video heads), use fine-woven cotton cloth or Kimwipe with alcohol soaks through. Do not move the cloth but turn the upper drum counterclockwise.

   Note: ***Make sure not to move the cloth in the vertical direction to the video head, since it may cause damage of the video heads.***

2. For cleaning of parts of the tape transport system except the upper drum, use fine-woven cotton cloth or cotton swab soaked alcohol.
3. After cleaning, confirm that the cleaned parts are completely dry before loading the deck with cassette tape.

2.6.2 Applying oil and grease

1. Periodical oiling and greasing are not required but should be done to new parts when replacing. If oil and grease on the other parts of the other party are old and dirty, wipe them clean and apply new oil or grease.
2. For parts and points to apply oil and grease, refer to the exploded view of the mechanism assembly (M3).
   Table 2-6-1 specifies oil and grease to be used.
3. When oiling, clean the objective parts with alcohol first and apply one or two drop(s) of oil. Too much oiling causes rotary parts to slip because of oil leakage.

Classification	Name	Part No.	Symbol in drawing
Grease	Grease	KYODO-SH-P	A
Oil	Cosmo Hydro HV100	YTU94027	B

Table 2-6-1 Specific oil and grease to be used

2.6.3 Checkup

After replacement of the supply reel disk and tension band, make sure to inspect beck tension according to the adjustment procedure of MECHANISM ADJUSTMENT section.

SECTION 3
ELECTRICAL ADJUSTMENT

3.1 ELECTRICAL ADJSUTMENT

3.1.1 PREPARATION

1. Precaution

This model does not contain adjustment controls (VR) . General deck system and camra system adjustment are not required. However, if MAIN board need replacement, please use original E²PROM on to new board. Then adjustment are not required. And if parts such as the following need replacement, special computerized adjustment are required (Refer to sec. 3.1.1-5). Please contact to JVC service for detaile information.

- OP block
- E²PROM (IC106 of MAIN board)

In the event of malfunction with electrical circuits, trouble-shooting with the aid of proper test instruments most be done first, and then commence necessary repair, replacement and adjustment, etc.

1. In case of wiring to chip test points for measurement, use IC clips, etc. to avoid any stress.
2. Since connectors are fragile, carefully handle them in disconnecting and connecting.
3. Shortcircuit between opration unit and DECK chassis.

2. Required test equipment

1. Colour TV monitor.
2. AC power adapter (AA-V10 and AA-V6 or equivalent).
3. Oscilloscope (Dual-trace type, for more than 20 MHz).
4. Digital voltmeter

3. Required adjustment tools

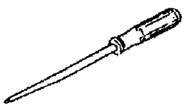
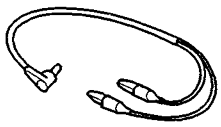
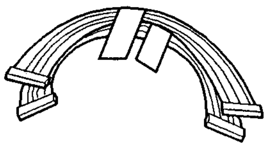
0.35 mm adjusting driver YTU94028	Power cord YTU94060A
	
Patch cord set YTU93075A	
	

Table 3-1-1 Required adjustment tools

4. Setup for MONITOR section adjustment

1. Referring to 'sec. 1. DISASSEMBLE' and connect the CN201 of the MONITOR board to CN16 of the MAIN board of deck section.

5. Required adjustment tools for Service support system

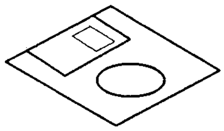
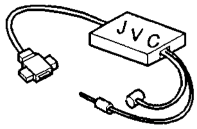
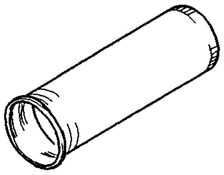
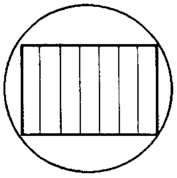
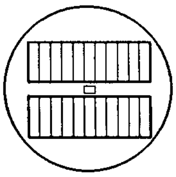
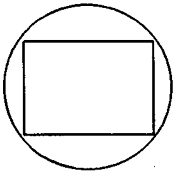
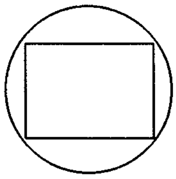
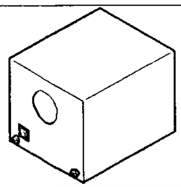
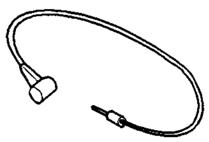
Service Support System software YTU94057-11	Interface cable YTU93063
	
Infinity adjustment lens YTU92001C	Colour bar chart YTU92001-051
	
Gray scale chart YTU92001-052	White balance chart YTU92001-053
	
Skintone chart YTU92001-054	Light box YTU93072
	
Adapter cable YTU94066	
	

Table 3-1-2 Required adjustment tools for Service support system

6. Contents of service support system software

<CAMERA SECTION>		6.	YL gain	12.	Carrier balance	18.	R–Y, B–Y gain
1.	OFD	7.	White clip	13.	Sub carrier balance		
2.	Hall gain	8.	Y AGC reference	14.	Burst level		
3.	Y set up	9.	Y AGC gain	15.	Data	<VTR SECTION>	
4.	EE	10.	Colour difference balance	16.	Map data	1.	PB switching point
5.	YH gain	11.	Carrier balance	17.	R/B gain	2.	Battery alarm

Table 3-1-3 Contents of service support system software

7. Connections for Service support system

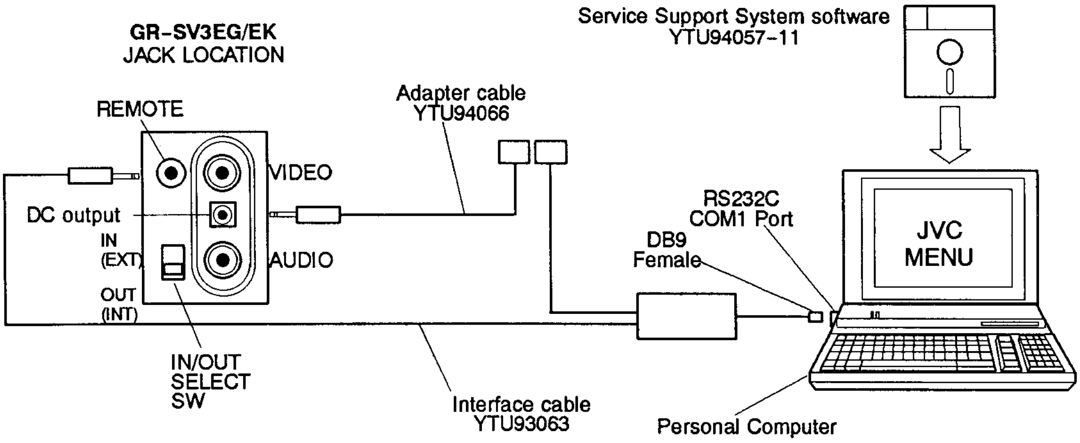

GR-SV3EG/EK
JACK LOCATION
REMOTE
VIDEO
DC output
IN
(EXT)
AUDIO
OUT
(INT)
IN/OUT
SELECT
SW
Adapter cable
YTU94066
Service Support System software
YTU94057-11
RS232C
COM1 Port
DB9
Female
JVC
MENU
Interface cable
YTU93063
Personal Computer

Fig. 3-1-1 Connections for Service support system

■ CIRCUIT PROTECTOR AND BATTERY TERMINAL LOCATION FOR BATTERY BOARD

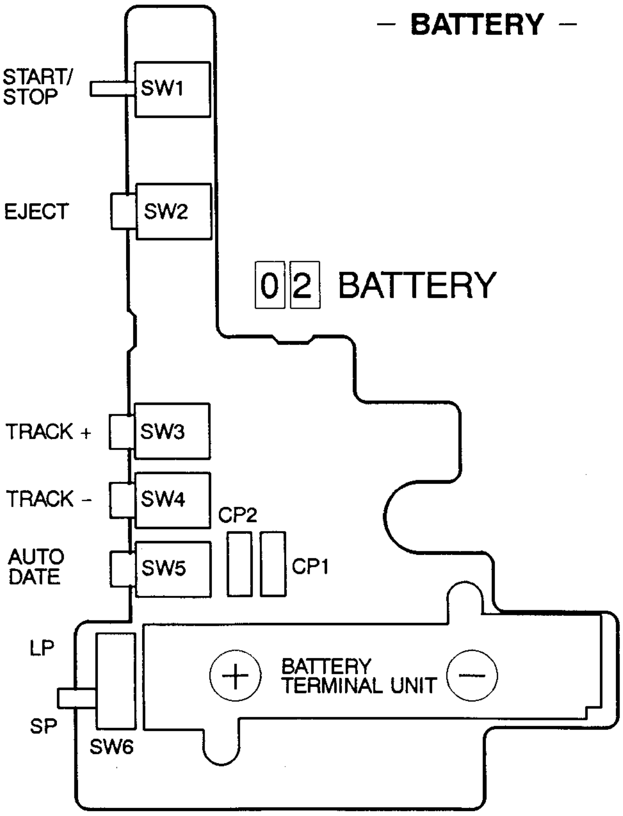

– BATTERY –
START/
STOP
SW1
EJECT
SW2
0 2 BATTERY
TRACK +
SW3
TRACK -
SW4
CP2
AUTO
DATE
SW5
CP1
LP
SP
SW6
+
BATTERY
TERMINAL UNIT
–

Fig. 3-1-2 Circuit protector and battery terminal location for BATTERY board assembly

■ ADJUSTMENT ELEMENT LOCATION FOR DECK SECTION

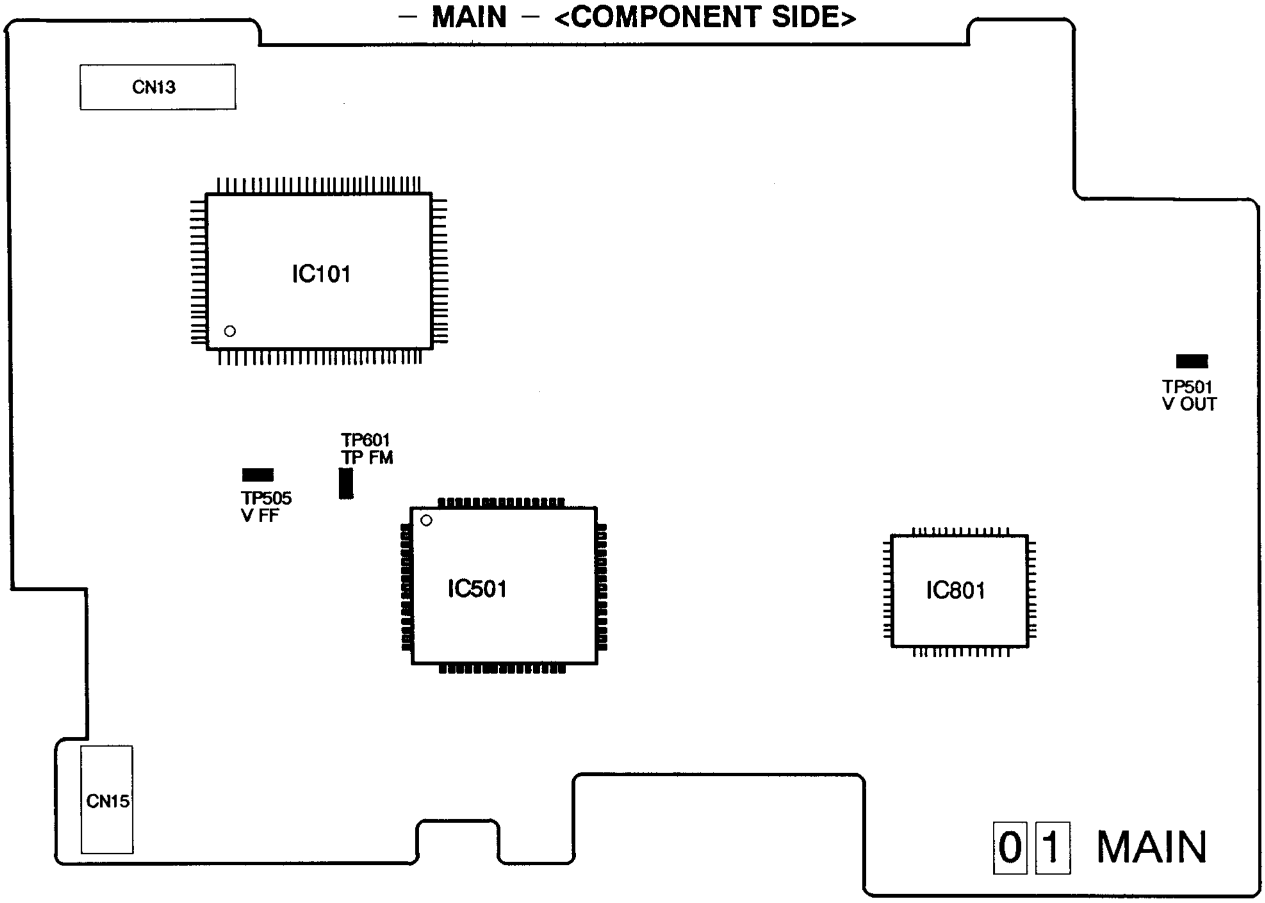

— MAIN — <COMPONENT SIDE>
CN13
IC101
TP501
V OUT
TP601
TP FM
TP505
V FF
IC501
IC801
CN15
0 1 MAIN

Fig. 3-1-3 Adjustment element location for MAIN board assembly

■ ADJUSTMENT ELEMENT LOCATION FOR LCD MONITOR SECTION

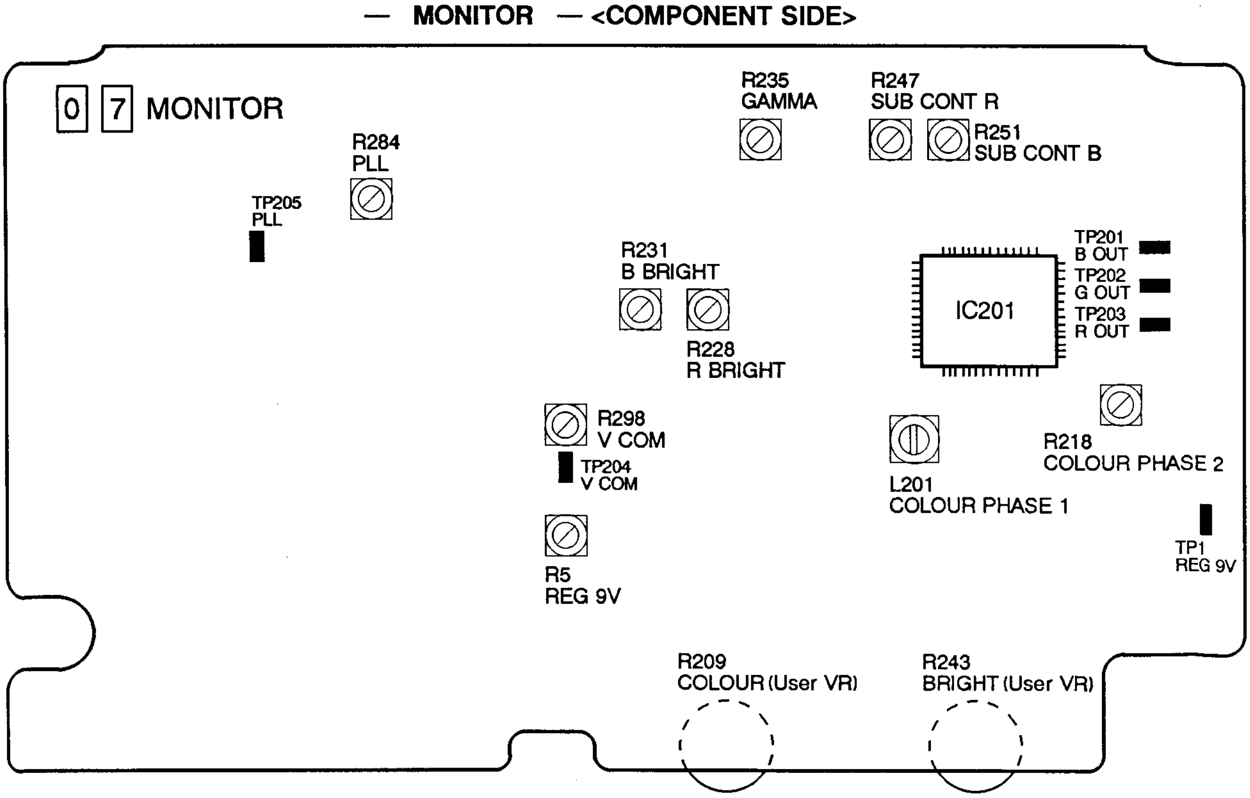

— MONITOR — <COMPONENT SIDE>
0 7 MONITOR
R235
GAMMA
R247
SUB CONT R
R251
SUB CONT B
R284
PLL
TP205
PLL
R231
B BRIGHT
R228
R BRIGHT
TP201
B OUT
TP202
G OUT
TP203
R OUT
IC201
R298
V COM
TP204
V COM
L201
COLOUR PHASE 1
R218
COLOUR PHASE 2
TP1
REG 9V
R5
REG 9V
R209
COLOUR (User VR)
R243
BRIGHT (User VR)

Fig. 3-2-1 Adjustment element location for MONITOR board assembly

3.2 LCD MONITOR SECTION ADJUSTMENT

Notes: *•Unless otherwise specified, all measurement points and adjustment parts are located on MONITOR board.*

•During adjustments, set R243 (BRIGHT) and R209 (COLOUR) to the centre detent position.

3.2.1 REG 9 V

Subject	•–
Mode	•EE
Equipment	•Digital voltmeter
Measurement point	•TP1 (REG 9 V)
Adjustment part	•R5 (REG 9 V)
Specification	•9.00 ± 0.03 V DC

1) Connect a digital voltmeter to TP1.
2) Adjust R5 for 9.0 V DC.

3.2.2 Gamma

Subject	•Gray scale
Mode	•EE
Equipment	•Oscilloscope
Measurement point	•TP202 (G OUT)
Adjustment part	•R243 (BRIGHT: User VR) •R235 (GAMMA)
Specification	•"A" = 5.0 Vp-p: R243 •"B" = 1.4 V: R235 (Bottom to 2nd step)

1) Observe the waveform at TP202.
2) Adjust R243 of the User VR so that level of "A" of a wavefom becomes 5.0 Vp-p.
3) Adjust R235 so that level of "B" (negative waveform, see Fig. 3-2-2) of a waveform becomes 1.4 V.

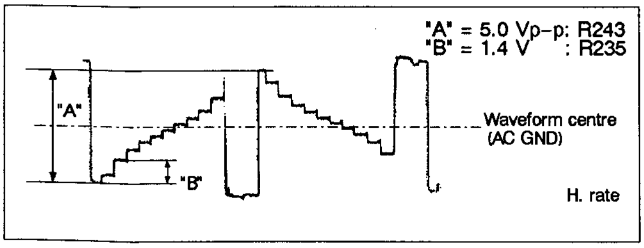


Fig. 3-2-2 Gamma

3.2.3 B contrast

Subject	•Gray scale
Mode	•EE
Equipment	•Oscilloscope
Measurement point	•TP201 (B OUT) •TP202 (G OUT)
Adjustment part	•R231 (B BRIGHT) •R251 (SUB CONT B)
Specification	•"A" = minimize amplitued: R231 •"B" = minimize amplitued: R251

1) Connect one channel (CH-1) of a dual trace oscilloscope to TP201 and the other channel (CH-2) to TP202 with INV. mode.
2) Set the both channels VOLTS/DIV range for 200 mV/div and AC cuplling mode of the oscilloscope, and then set the ADD mode.
3) Adjust R231 to minimize amplitued of the waveform portions "A".
4) Adjust R251 to minimize amplitued of the waveform portions "B".
5) After the adjustment, confirm that the waveform as Fig. 3-2-3 (B).

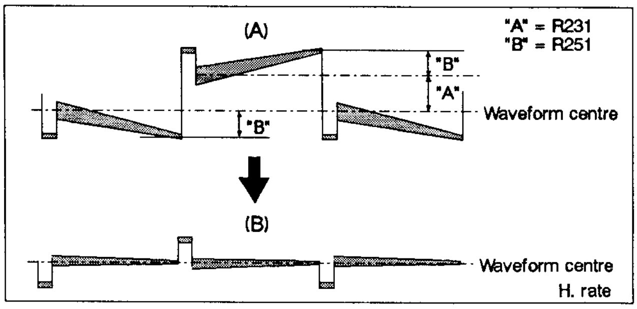


Fig. 3-2-3 B contrast

3.2.4 R contrast

Subject	•Gray scale
Mode	•EE
Equipment	•Oscilloscope
Measurement point	•TP203 (R OUT) •TP202 (G OUT)
Adjustment part	•R228 (R BRIGHT) •R247 (SUB CONT R)
Specification	•"A" = minimize amplitued: R228 •"B" = minimize amplitued: R247

1) Connect one channel (CH-1) of a dual trace oscilloscope to TP203 and the other channel (CH-2) to TP202 with INV. mode.
2) Set the both channels VOLTS/DIV range for 200 mV/div and AC cuplling mode of the oscilloscope, and then set the ADD mode.

3) Adjust R228 to minimize amplitued of the waveform portions "A".

4) Adjust R247 to minimize amplitued of the waveform portions "B".

5) After the adjustment, confirm that the waveform as Fig. 3-2-4 (B).

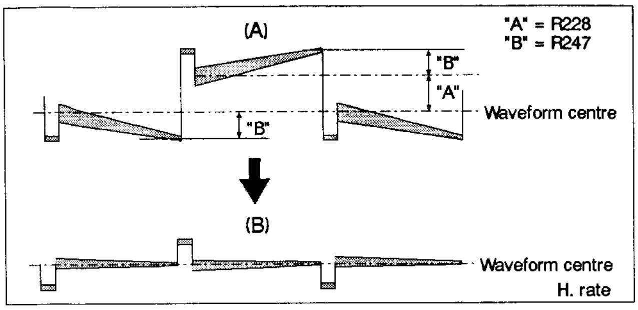

(A)
"A" = R228
"B" = R247
"B"
"A"
"B"
Waveform centre
(B)
Waveform centre
H. rate

Fig. 3-2-4 R contrast

3.2.5 B brightness

Subject	•Gray scale
Mode	•EE
Equipment	•Oscilloscope
Measurement point	•TP202 (G OUT) •TP201 (B OUT)
Adjustment part	•R243 (BRIGHT: User VR) •R231 (B BRIGHT)
Specification	•"A" = 5.0 Vp-p: R243 •"B" = 5.3 Vp-p: R231

1) Observe the waveform at TP202.

2) Adjust R243 of the User VR so that level of "A" of a wavefom becomes 5.0 Vp-p.

3) Connect an oscilloscope to TP201.

4) Adjust R231 so that level of "B" of a waveform becomes 5.3 Vp-p.

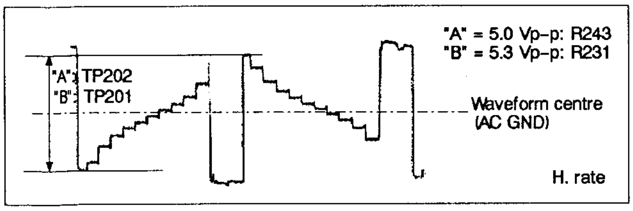

"A" = 5.0 Vp-p: R243
"B" = 5.3 Vp-p: R231
"A": TP202
"B": TP201
Waveform centre
(AC GND)
H. rate

Fig. 3-2-5 B brightness

3.2.6 R brightness

Subject	•Gray scale
Mode	•EE
Equipment	•Oscilloscope
Measurement point	•TP202 (G OUT) •TP203 (R OUT)
Adjustment part	•R243 (BRIGHT: User VR) •R228 (R BRIGHT)
Specification	•"A" = 5.0 Vp-p: R243 •"B" = 5.1 Vp-p: R228

1) Observe the waveform at TP202.

2) Adjust R243 of the User VR so that level of "A" of a wavefom becomes 5.0 Vp-p.

3) Connect an oscilloscope to TP203.

4) Adjust R228 so that level of "B" of a waveform becomes 5.1 Vp-p.

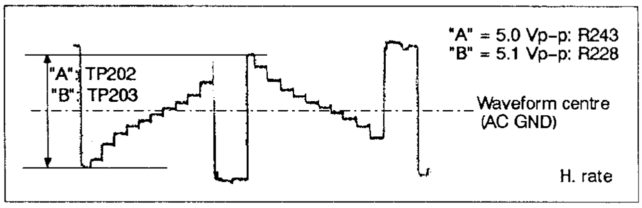

"A" = 5.0 Vp-p: R243
"B" = 5.1 Vp-p: R228
"A": TP202
"B": TP203
Waveform centre
(AC GND)
H. rate

Fig. 3-2-6 R brightness

3.2.7 Colour phase 1

Subject	•Colour bar
Mode	•EE
Equipment	•Oscilloscope
Measurement point	•TP203 (R OUT)
Adjustment part	•L201 (COLOUR PHASE 1)
Specification	•"A" = minimize fluctuation

1) Connect an oscilloscope to TP203.

2) Adjust L201 to minimize fluctuation of the waveform portions "A".

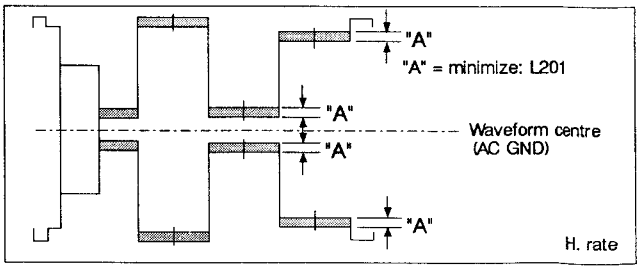

"A"
"A" = minimize: L201
"A"
Waveform centre
(AC GND)
"A"
"A"
H. rate

Fig. 3-2-7 Colour phase 1

3.2.8 Colour phase 2

Subject	•Colour bar
Mode	•EE
Equipment	•Oscilloscope
Measurement point	•TP201 (B OUT)
Adjustment part	•R218 (COLOUR PHASE 2)
Specification	•"A" = minimize fluctuation

Note: • *Confirm that procedure 3.2.7 is correct before performing this adjustment procedure.*

1) Connect an oscilloscope to TP201.
2) Adjust R218 to minimize fluctuation of the waveform portions "A".

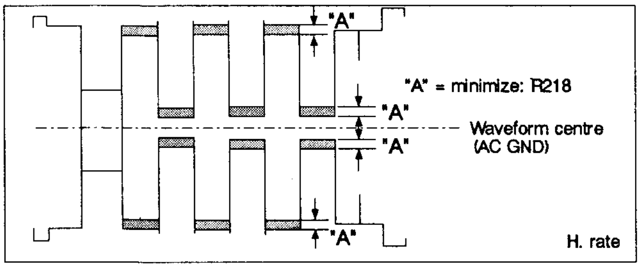


Fig. 3-2-8 Colour phase 2

3.2.9 PLL

Subject	•Gray scale
Mode	•EE
Equipment	•Oscilloscope
Measurement point	•TP205 (PLL)
Adjustment part	•R284 (PLL)
Specification	•2.4 ± 0.4 V DC

1) Observe waveform at TP205.
2) Adjust R284 so that DC level of "A" (between the waveform centre and GND, see Fig. 3-2-8) of a waveform becomes 2.4 V DC.

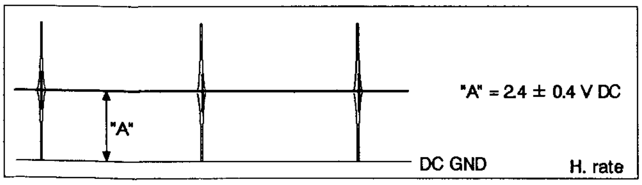


Fig. 3-2-9 PLL

3.2.10 VCOM

Subject	•Gray scale
Mode	•EE
Equipment	•LCD monitor
Measurement point	•LCD monitor screen
Adjustment part	•R298 (VCOM)
Specification	•Gradation is optimum

Notes: • *This item must be adjusted only after the LCD monitor or LCD monitor assembly is replaced.*

•Please slowly turn the R298 for slowly effect on the LCD monitor screen.

1) Observing gradation of the screen on the LCD monitor.
2) Adjust R298 so that gray scale gradation is optimum. (Please make several times adjust R298 to find a optimum gradation point.)

3.3 OP BLOCK ASSEMBLY SECTION ADJUSTMENT

Notes:
- *This item must be adjusted only after the CCD or OP block assembly are replaced.*
- *Unless otherwise specified, all measurement points and adjustment parts are located on OP BLOCK assembly.*
- *Use caution not to scratch or contaminate the CCD image sensor glass, optical filter or master lens. If fingerprints or other soiling occur, wipe with silicone paper or clean chamois.*

3.3.1 Front focus

Subject	•Front focus chart
Mode	•EE •Iris: OPEN •AGC: OFF •ZOOM SW: WIDE
Equipment	•TV monitor
Measurement point	•TV monitor screen
Adjustment part	•Focus plate
Specification	•Correct focus

1) Confirm that the subject is in focus by every setting of the lens from the WIDE position (distance of 90 cm from subject) and the TELE position (distance of 2.6 m from subject).
2) Set the lens to chart distance to 90 cm.
3) Loosen the two screws (A) and set the zoom sw is WIDE position.
4) Observing focusing of the lens on the TV monitor, adjust the position of the master lens unit with a focus plate (B).
5) After the adjustment, tighten the two screws (A) and confirm step 1).

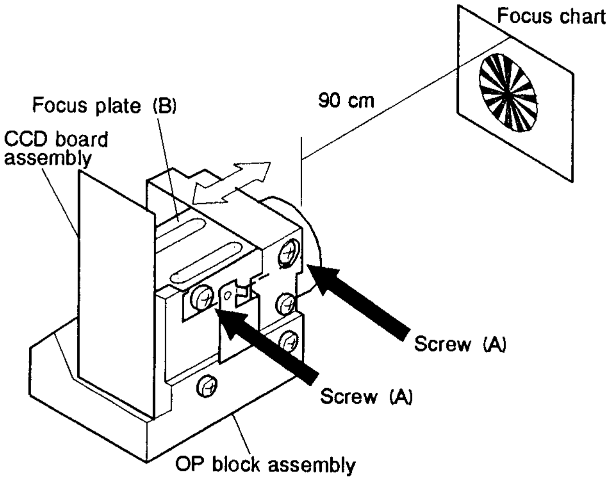


Fig. 3-3-1 OP BLOCK assembly

SECTION 4
CHARTS AND DIAGRAMS

SCHEMATIC DIAGRAM NOTES

Safety precautions
The Components identified by the symbol ⚠ are critical for safety. For continued safety, replace safety critical components only with manufactures recommended parts.

1. Schematic diagram values

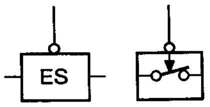
Unless otherwise specified.

1) All resistance values are in ohms. 1/6 W, 1/8 W (refer to parts list).
   Chip resistors are 1/16 W.
   K: KΩ (1000Ω), M: MΩ (1000KΩ)
2) All capacitance values are in µF, (P: PF).
3) All inductance values in µH, (m: mH).
4) All diodes are 1SS133 or MA165, (refer to parts list).

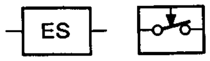
2. Indications

AUX : Active only at high.

$\overline{\text{AUX}}$: Active only at low.

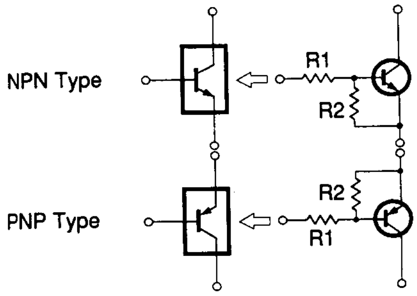


Active only at low for electronic switch.

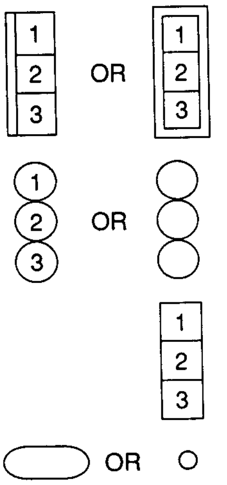


Active only at high for electronic switch.

Digital transistor :
The digital transistor includes built in resistors.
It features small size and high reliability.



3. Interpreting Connector indications



Removable connector

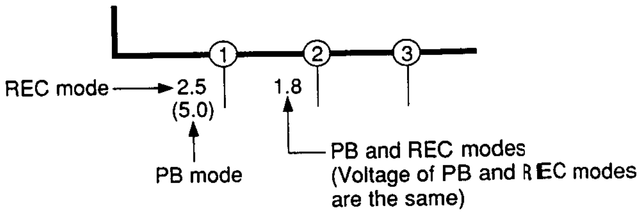
Direct connection on board

Non-removable Board connector

Connected pattern on board

4. Voltage measurement

1) Video circuits
   REC: Colour bar signal in SP mode, normal VHS mode.
   PB : Alignment tape, colour bar SP mode, normal VHS mode.
   — : Unmeasurable or unnecessary to measure.
2) Audio circuits
   REC: 1KHz, –8 dBs sine wave signal in SP mode, Normal VHS mode.
   PB : REC then playback it.
3) Movie Camera circuits
   Measured using a correctly illuminated grey scale or colour bar test charts in the E-E mode.
4) Indication on schematic diagram
   Voltage Indications for REC and PB modes on the schematic diagram are as shown below.



Note: If do not indicate for voltage measurement on the schematic diagram, refer to the voltage charts.

SECTION 4
CHARTS AND DIAGRAMS

SCHEMATIC DIAGRAM NOTES

Safety precautions
The Components identified by the symbol ⚠ are critical for safety. For continued safety, replace safety critical components only with manufactures recommended parts.

1. Schematic diagram values

Unless otherwise specified.

1) All resistance values are in ohms. 1/6 W, 1/8 W (refer to parts list).
   Chip resistors are 1/16 W.
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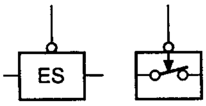
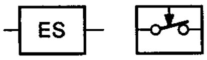
2) All capacitance values are in µF, (P: PF).
3) All inductance values in µH, (m: mH).
4) All diodes are 1SS133 or MA165, (refer to parts list).

2. Indications

AUX : Active only at high.
$\overline{\text{AUX}}$: Active only at low.

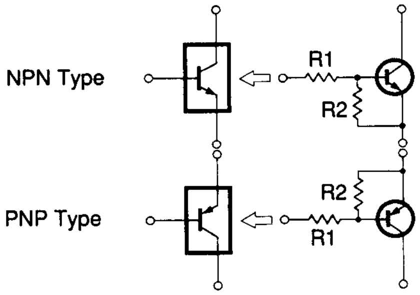


Active only at low for electronic switch.

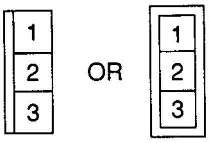


Active only at high for electronic switch.

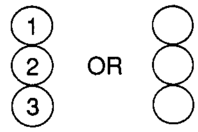
Digital transistor :
The digital transistor includes built in resistors.
It features small size and high reliability.



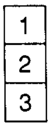
3. Interpreting Connector indications



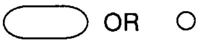
Removable connector



Direct connection on board



Non-removable Board connector



Connected pattern on board

4. Voltage measurement

1) Video circuits
   REC: Colour bar signal in SP mode, normal VHS mode.
   PB : Alignment tape, colour bar SP mode, normal VHS mode.
   — : Unmeasurable or unnecessary to measure.
2) Audio circuits
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   Measured using a correctly illuminated grey scale or colour bar test charts in the E-E mode.
4) Indication on schematic diagram
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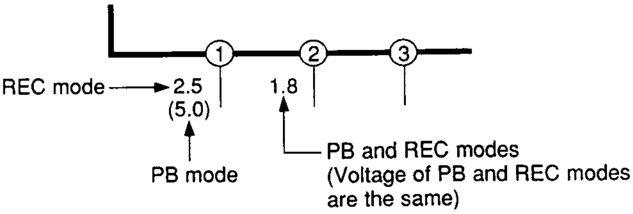
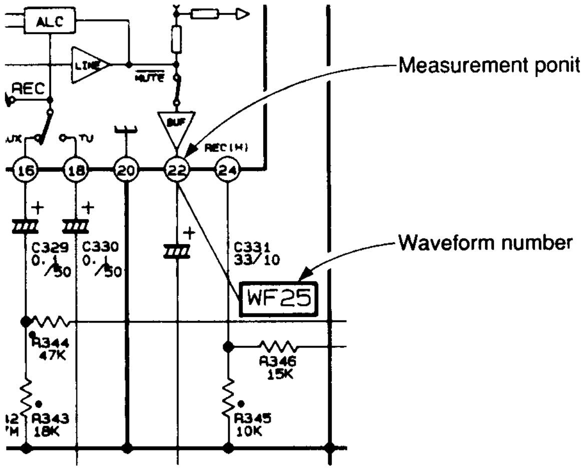


Note: If do not indicate for voltage measurement on the schematic diagram, refer to the voltage charts.

5. Waveform measurement

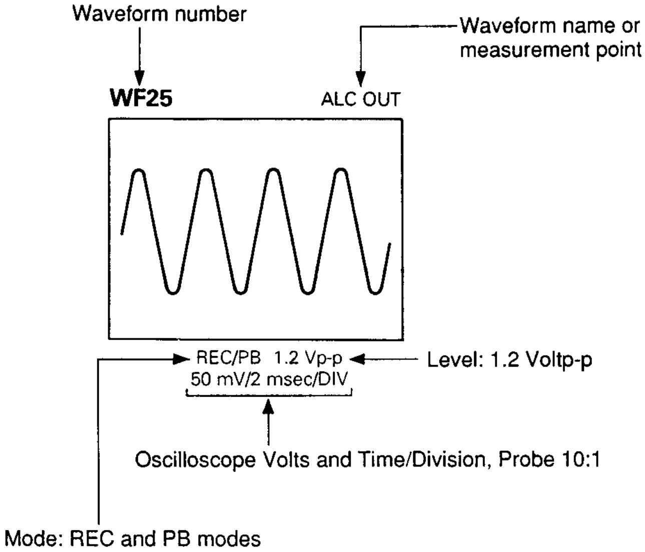
1) Video circuits
   REC: Colour bar signal in SP mode, normal VHS mode.
   PB : Alignment tape, colour bar SP mode, normal VHS mode.
2) Audio circuits
   REC: 1KHz, –8 dBs sine wave signal in SP mode, normal VHS mode.
   PB : REC then playback it.
3) Movie Camera circuits
   Measured using a correctly illuminated grey scale or colour bar test charts in the E-E mode.
4) Indication on schematic diagram
   Waveform indications on the schematic diagram are as shown below.



Measurement ponit

Waveform number

5) Waveform indications



Waveform number

Waveform name or measurement point

WF25 ALC OUT

REC/PB 1.2 Vp-p

50 mV/2 msec/DIV

Level: 1.2 Voltp-p

Oscilloscope Volts and Time/Division, Probe 10:1

Mode: REC and PB modes

6. Signal path Symbols

The arrows indicate the signal path as follows.

▭▷	Playback signal path
▭▶	Playback and recording signal path
■▶	Recording signal path (including E-E signal path)
■▷	Y signal path
▭▷▷	Colour (Chroma) signal path
▭▶▷	R or R-Y signal path
■▶▷	B or B-Y signal path
▭▷▶	Capstan servo path
▭▶▶	Drum servo path
■▶▶	Reel servo path

CIRCUIT BOARD NOTES

1. Colour indications

1) Foil side :
   Foil side patterns are indicated at GREY shading.
2) Component side :
   Component side patterns are indicated at RED shading.

2. Foil and Component sides

1) Foil side (B side) :
   Parts on the foil side seen from foil face (pattern face) are indicated.
2) Component side (A side) :
   Parts on the component side seen from component face (parts face) are indicated.

3. Parts location guides

Parts location are indicated by guide scale on the circuit board.

1) Signal pattern :

REF No.	LOCATION
TRANSISTOR	
Q101	2A

TRANSISTOR ← Category: Transistor

Reference number

Horizontal "A" zone

Vertical "2" zone

2) Double pattern :

REF No.	LOCATION
IC	
IC101	B-5C

IC ← Category: IC

B: Foil side
(A: Component side)

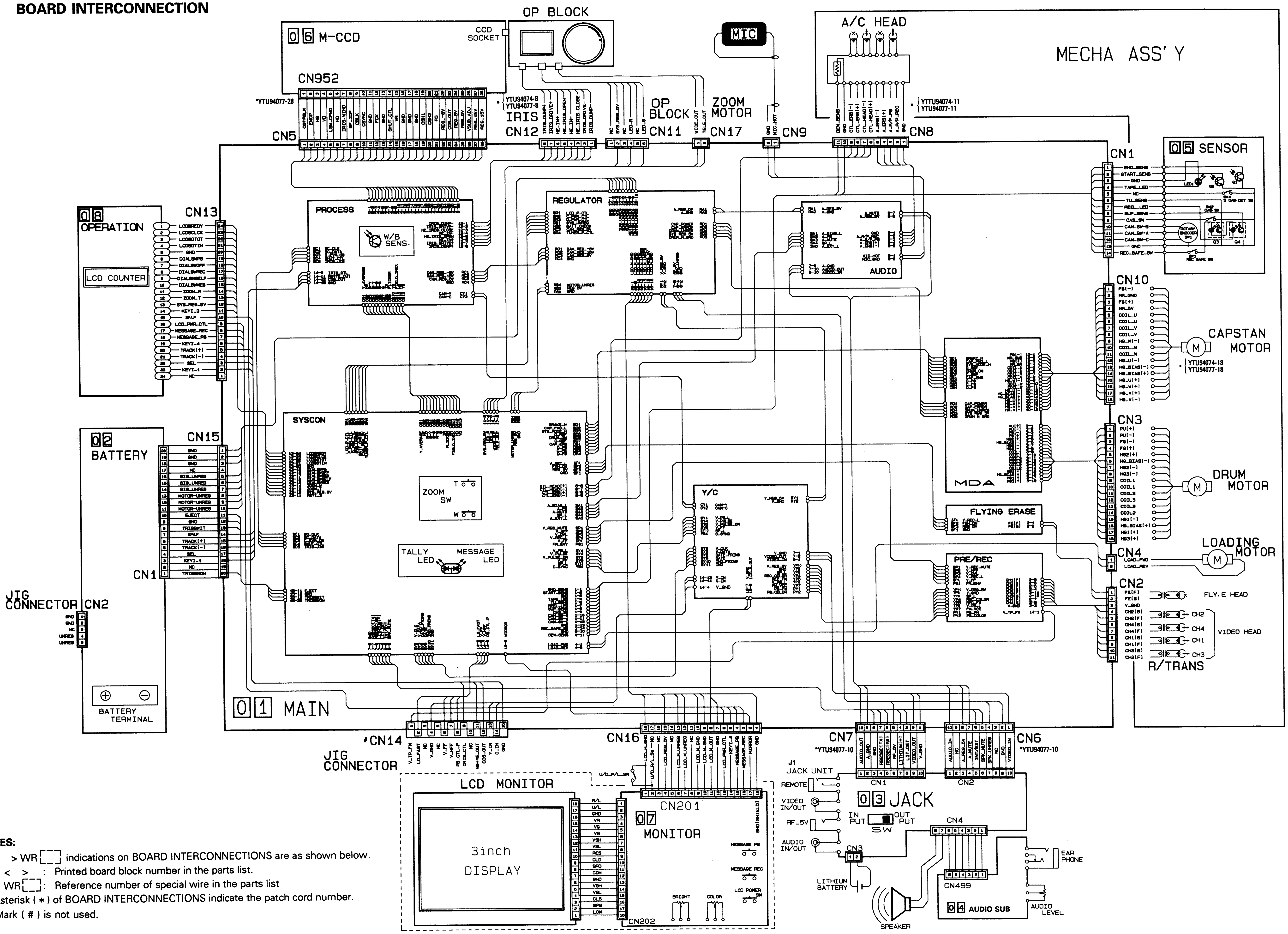
Horizontal "C" zone

Vertical "5" zone

Notes:

1) **For general information in service manual, please refer to the Service Manual of GENERAL INFORMATION Edition 4 No. 82054D (January 1994).**
2) **For repairing SMC (Surface Mounted Components), please refer to the VIDEO SERVICE GUIDE No. VTS81001.**

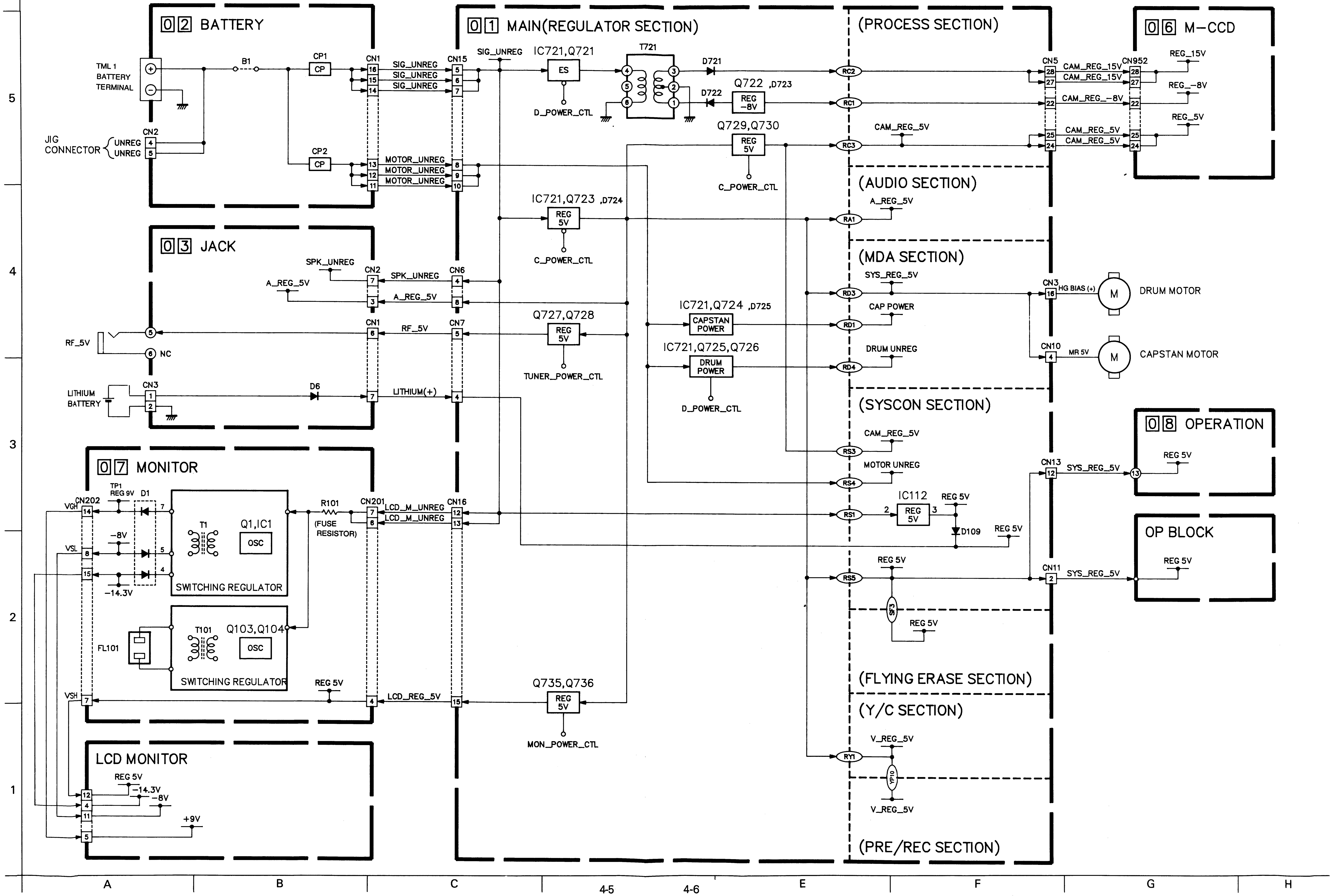
4.1 BOARD INTERCONNECTION


OP BLOCK
06 M-CCD
CCD SOCKET
CN952
*YTU94077-28
CN5
* YTU94074-8 / YTU94077-8
IRIS
CN12
OP BLOCK
CN11
ZOOM MOTOR
CN17
MIC
CN9
A/C HEAD
* YTU94074-11 / YTU94077-11
CN8
MECHA ASS'Y
CN1
05 SENSOR
08 OPERATION
LCD COUNTER
CN13
PROCESS
W/B SENS.
REGULATOR
AUDIO
CN10
CAPSTAN MOTOR
* YTU94074-18 / YTU94077-18
MDA
CN3
DRUM MOTOR
FLYING ERASE
LOADING MOTOR
CN4
02 BATTERY
CN15
CN1
SYSCON
ZOOM SW
T
W
TALLY LED
MESSAGE LED
Y/C
PRE/REC
CN2
FLY. E HEAD
CH2
CH4
CH1
CH3
VIDEO HEAD
R/TRANS
JIG CONNECTOR
CN2
BATTERY TERMINAL
01 MAIN
*CN14
JIG CONNECTOR
CN16
CN7
*YTU94077-10
CN6
*YTU94077-10
J1 JACK UNIT
REMOTE
VIDEO IN/OUT
RF_5V
AUDIO IN/OUT
CN1
CN2
03 JACK
IN PUT
OUT PUT
SW
CN4
CN3
LITHIUM BATTERY
CN499
04 AUDIO SUB
EAR PHONE
AUDIO LEVEL
SPEAKER
LCD MONITOR
3inch DISPLAY
CN201
07 MONITOR
CN202
MESSAGE PB
MESSAGE REC
LCD POWER SW
BRIGHT
COLOR

NOTES:

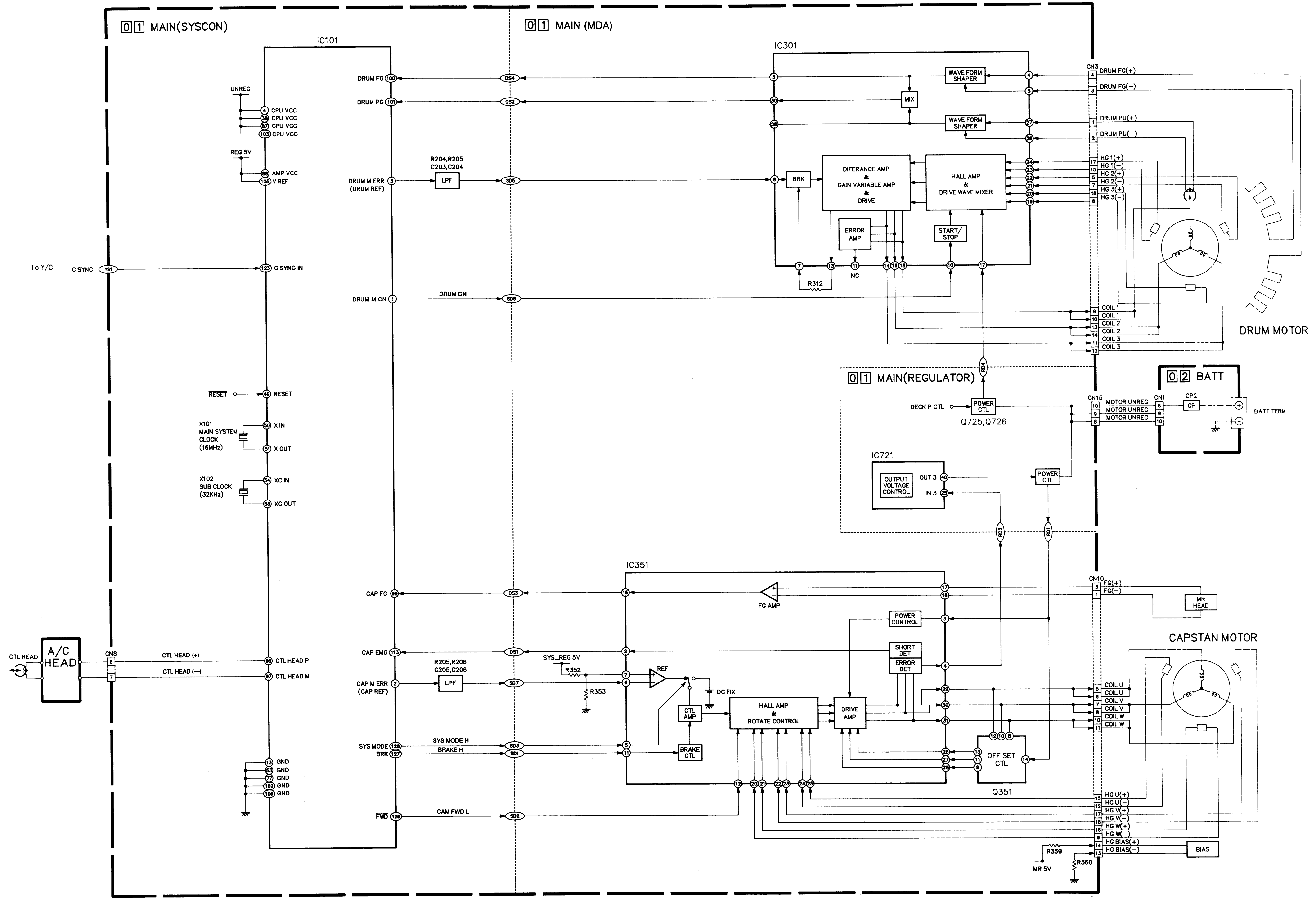
1. < > WR[ ] indications on BOARD INTERCONNECTIONS are as shown below.
   < > : Printed board block number in the parts list.
   WR[ ]: Reference number of special wire in the parts list
2. Asterisk (*) of BOARD INTERCONNECTIONS indicate the patch cord number.
3. Mark (#) is not used.

4.2 POWER SYSTEM BLOCK DIAGRAM

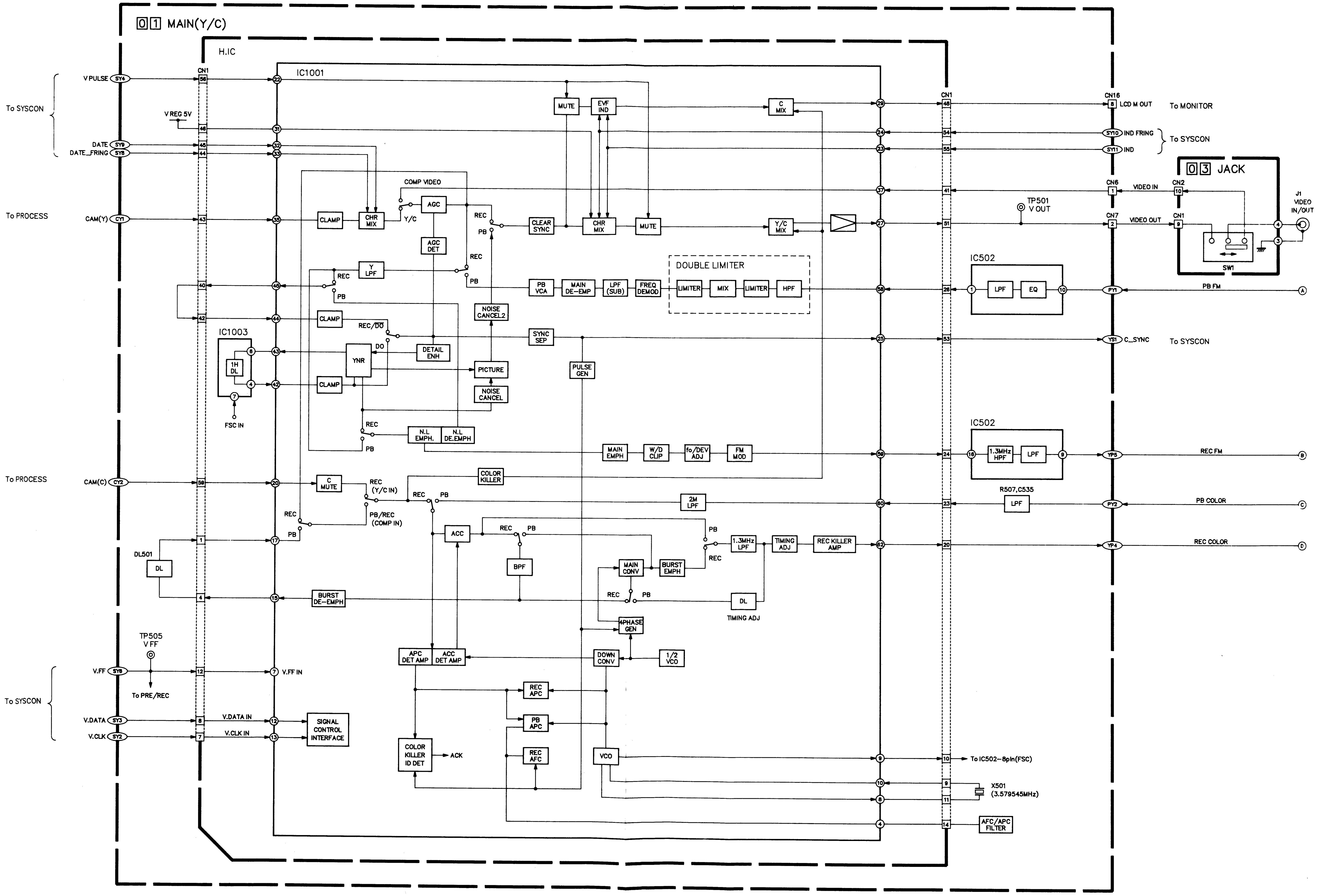


6
5
4
3
2
1
A
B
C
E
F
G
H
02 BATTERY
TML 1 BATTERY TERMINAL
B1
CP1
CP
CP2
JIG CONNECTOR
CN2
UNREG
CN1
SIG_UNREG
MOTOR_UNREG
CN15
03 JACK
SPK_UNREG
A_REG_5V
CN2
CN6
RF_5V
NC
CN1
CN7
LITHIUM BATTERY
CN3
D6
LITHIUM(+)
07 MONITOR
TP1 REG 9V
D1
CN202
VGH
VSL
VSH
-8V
-14.3V
T1
Q1,IC1
OSC
SWITCHING REGULATOR
R101
(FUSE RESISTOR)
CN201
LCD_M_UNREG
CN16
FL101
T101
Q103,Q104
REG 5V
LCD_REG_5V
LCD MONITOR
REG 5V
-14.3V
-8V
+9V
01 MAIN(REGULATOR SECTION)
SIG_UNREG
IC721,Q721
ES
D_POWER_CTL
T721
D721
D722
Q722 ,D723
REG -8V
Q729,Q730
REG 5V
C_POWER_CTL
IC721,Q723 ,D724
REG 5V
C_POWER_CTL
Q727,Q728
REG 5V
TUNER_POWER_CTL
IC721,Q724 ,D725
CAPSTAN POWER
IC721,Q725,Q726
DRUM POWER
D_POWER_CTL
Q735,Q736
REG 5V
MON_POWER_CTL
(PROCESS SECTION)
RC2
RC1
RC3
CAM_REG_5V
(AUDIO SECTION)
A_REG_5V
RA1
(MDA SECTION)
SYS_REG_5V
RD3
CAP POWER
RD1
DRUM UNREG
RD4
(SYSCON SECTION)
CAM_REG_5V
RS3
MOTOR UNREG
RS4
IC112
REG 5V
RS1
D109
REG 5V
RS5
SF3
REG 5V
(FLYING ERASE SECTION)
(Y/C SECTION)
V_REG_5V
RY1
YP10
V_REG_5V
(PRE/REC SECTION)
CN5
CAM_REG_15V
CAM_REG_-8V
CAM_REG_5V
CN952
06 M-CCD
REG_15V
REG_-8V
REG_5V
CN3
HG BIAS (+)
M
DRUM MOTOR
CN10
MR 5V
CAPSTAN MOTOR
08 OPERATION
REG 5V
CN13
SYS_REG_5V
OP BLOCK
CN11
SYS_REG_5V
REG 5V

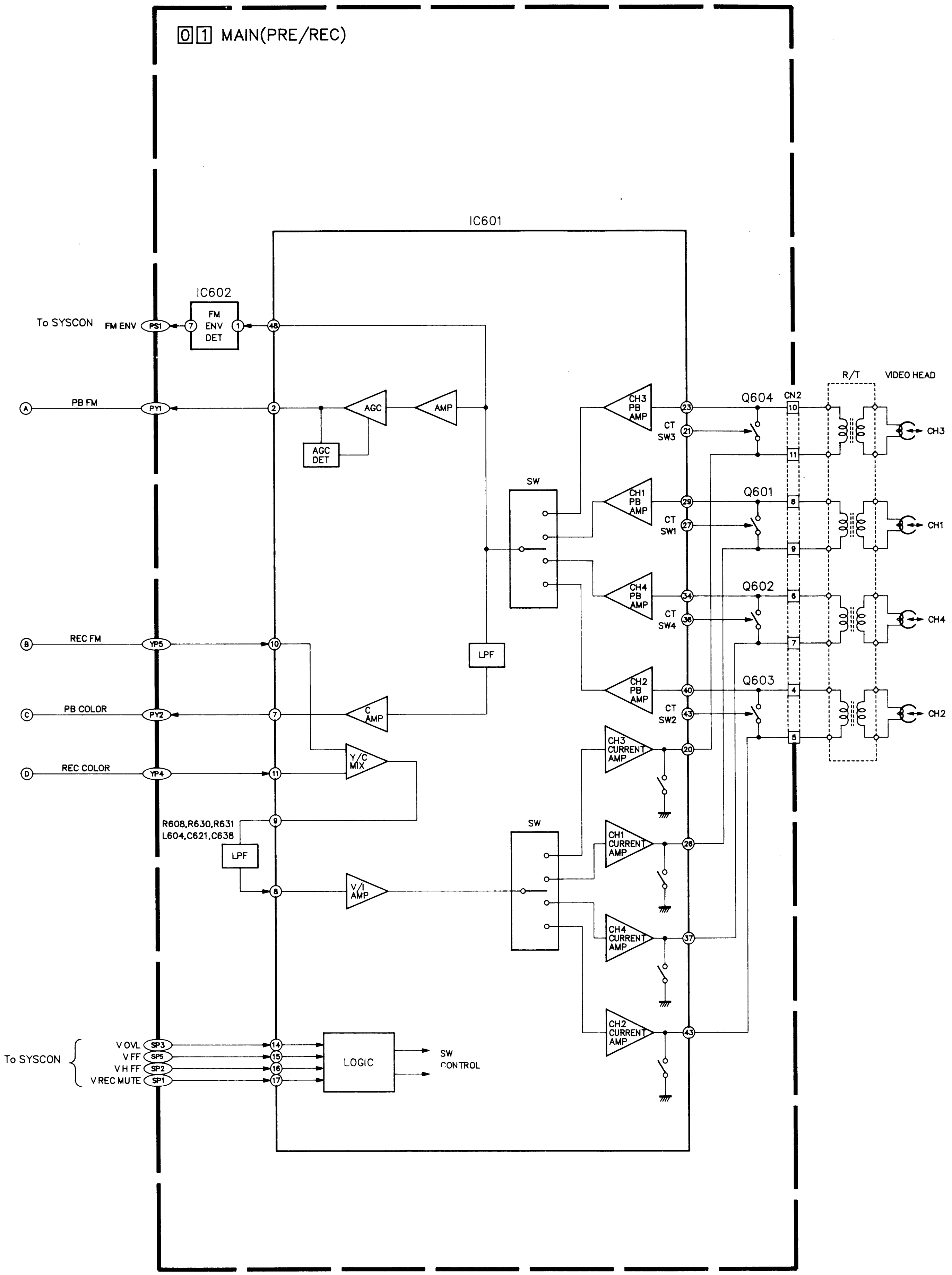
4.3 SYSCON/MDA BLOCK DIAGRAM


01 MAIN(SYSCON)
01 MAIN (MDA)
IC101
UNREG
4 CPU VCC
38 CPU VCC
87 CPU VCC
103 CPU VCC
REG 5V
88 AMP VCC
105 V REF
DRUM FG 100
DRUM PG 101
R204,R205
C203,C204
LPF
DRUM M ERR 3
(DRUM REF)
To Y/C
C SYNC
YS1
123 C SYNC IN
DRUM M ON 1
DRUM ON
DS4
DS2
SD5
SD6
RESET
49 RESET
X101
MAIN SYSTEM
CLOCK
(16MHz)
50 X IN
51 X OUT
X102
SUB CLOCK
(32KHz)
54 XC IN
55 XC OUT
IC301
WAVE FORM SHAPER
MIX
WAVE FORM SHAPER
BRK
DIFERANCE AMP & GAIN VARIABLE AMP & DRIVE
HALL AMP & DRIVE WAVE MIXER
ERROR AMP
START/ STOP
R312
NC
CN3
DRUM FG(+)
DRUM FG(−)
DRUM PU(+)
DRUM PU(−)
HG 1(+)
HG 1(−)
HG 2(+)
HG 2(−)
HG 3(+)
HG 3(−)
COIL 1
COIL 1
COIL 2
COIL 2
COIL 3
COIL 3
DRUM MOTOR
RD4
01 MAIN(REGULATOR)
DECK P CTL
POWER CTL
Q725,Q726
CN15
MOTOR UNREG
MOTOR UNREG
MOTOR UNREG
02 BATT
CN1
CP2
CF
BATT TERM
IC721
OUTPUT VOLTAGE CONTROL
OUT 3 40
IN 3 25
POWER CTL
RD2
RD1
CTL HEAD
A/C HEAD
CN8
CTL HEAD (+)
CTL HEAD (—)
96 CTL HEAD P
97 CTL HEAD M
13 GND
53 GND
77 GND
102 GND
106 GND
CAP FG 99
CAP EMG 113
R205,R206
C205,C206
LPF
CAP M ERR 2
(CAP REF)
SYS MODE 128
BRK 127
SYS MODE H
BRAKE H
FWD 126
CAM FWD L
DS3
DS1
SD7
SD3
SD1
SD2
IC351
FG AMP
SYS_REG 5V
R352
R353
REF
DC FIX
CTL AMP
BRAKE CTL
HALL AMP & ROTATE CONTROL
DRIVE AMP
POWER CONTROL
SHORT DET
ERROR DET
OFF SET CTL
Q351
CN10
FG(+)
FG(−)
MR HEAD
CAPSTAN MOTOR
COIL U
COIL U
COIL V
COIL V
COIL W
COIL W
HG U(+)
HG U(−)
HG V(+)
HG V(−)
HG W(+)
HG W(−)
HG BIAS(+)
HG BIAS(−)
BIAS
R359
MR 5V
R360
6
5
4
3
2
1
A
B
C
E
F
G
H

4.4 Y/C BLOCK DIAGRAM



01 MAIN(Y/C)
H.IC
IC1001
IC1003
IC502
03 JACK
To SYSCON
V PULSE SY4
V REG 5V
DATE SY9
DATE_FRING SY8
To PROCESS
CAM(Y) CY1
CAM(C) CY2
To PROCESS
CN1
COMP VIDEO
CLAMP
CHR MIX
Y/C
AGC
AGC DET
REC
PB
Y LPF
REC/DO
DO
DETAIL ENH
YNR
1H DL
FSC IN
PICTURE
NOISE CANCEL
NOISE CANCEL2
N.L EMPH.
N.L DE.EMPH
CLEAR SYNC
MUTE
EVF IND
C MIX
Y/C MIX
SYNC SEP
PULSE GEN
PB VCA
MAIN DE-EMP
LPF (SUB)
FREQ DEMOD
DOUBLE LIMITER
LIMITER
MIX
HPF
MAIN EMPH
W/D CLIP
fo/DEV ADJ
FM MOD
C MUTE
REC (Y/C IN)
PB/REC (COMP IN)
COLOR KILLER
2M LPF
ACC
BPF
MAIN CONV
BURST EMPH
1.3MHz LPF
TIMING ADJ
REC KILLER AMP
DL
TIMING ADJ
4PHASE GEN
DOWN CONV
1/2 VCO
APC DET AMP
ACC DET AMP
REC APC
PB APC
REC AFC
VCO
COLOR KILLER ID DET
ACK
DL501
DL
BURST DE-EMPH
TP505 V FF
V.FF SY6
To PRE/REC
V.FF IN
To SYSCON
V.DATA SY3
V.CLK SY2
V.DATA IN
V.CLK IN
SIGNAL CONTROL INTERFACE
CN16
LCD M OUT
To MONITOR
IND FRING
IND
To SYSCON
CN6
VIDEO IN
CN2
CN7
VIDEO OUT
TP501 V OUT
SW1
J1 VIDEO IN/OUT
LPF
EQ
PY1
PB FM
YS1 C_SYNC
To SYSCON
1.3MHz HPF
YP5
REC FM
R507,C535
PY2
PB COLOR
YP4
REC COLOR
To IC502-8pin(FSC)
X501 (3.579545MHz)
AFC/APC FILTER



0 1 MAIN(PRE/REC)
IC601
IC602
FM ENV DET
To SYSCON
FM ENV
PS1
7
1
48
A
PB FM
PY1
2
AGC
AMP
AGC DET
B
REC FM
YP5
10
C
PB COLOR
PY2
7
C AMP
LPF
D
REC COLOR
YP4
11
Y/C MIX
9
R608,R630,R631
L604,C621,C638
LPF
8
V/I AMP
SW
SW
CH3 PB AMP
CH1 PB AMP
CH4 PB AMP
CH2 PB AMP
23
CT SW3
21
29
CT SW1
27
34
CT SW4
36
40
CT SW2
42
CH3 CURRENT AMP
20
CH1 CURRENT AMP
26
CH4 CURRENT AMP
37
CH2 CURRENT AMP
43
Q604
Q601
Q602
Q603
CN2
10
11
8
9
6
7
4
5
R/T
VIDEO HEAD
CH3
CH1
CH4
CH2
To SYSCON
V OVL
SP3
V FF
SP5
V H FF
SP2
V REC MUTE
SP1
14
15
16
17
LOGIC
SW CONTROL

6

4.5 CAMERA BLOCK DIAGRAM

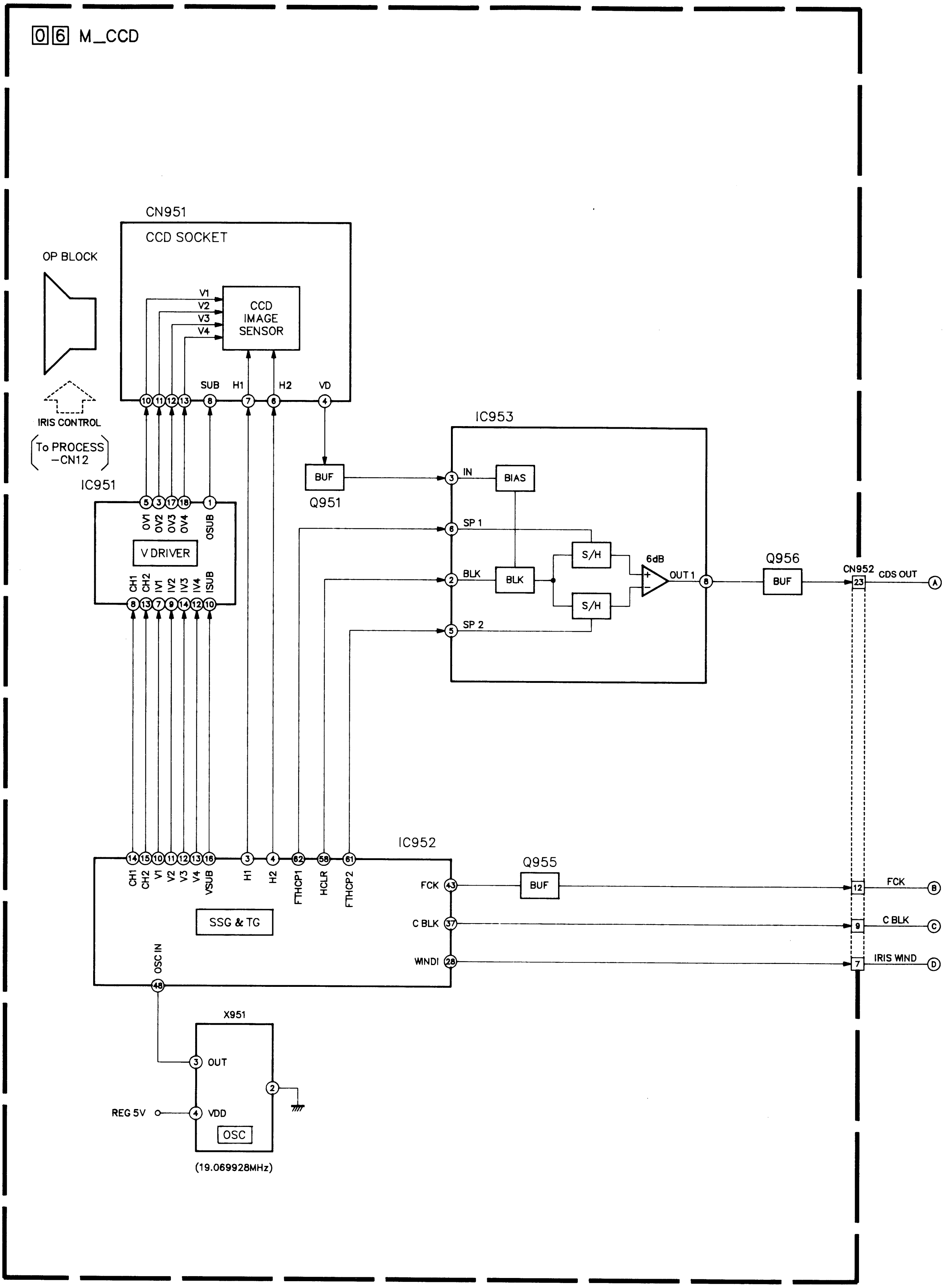
5

4

3

2

1

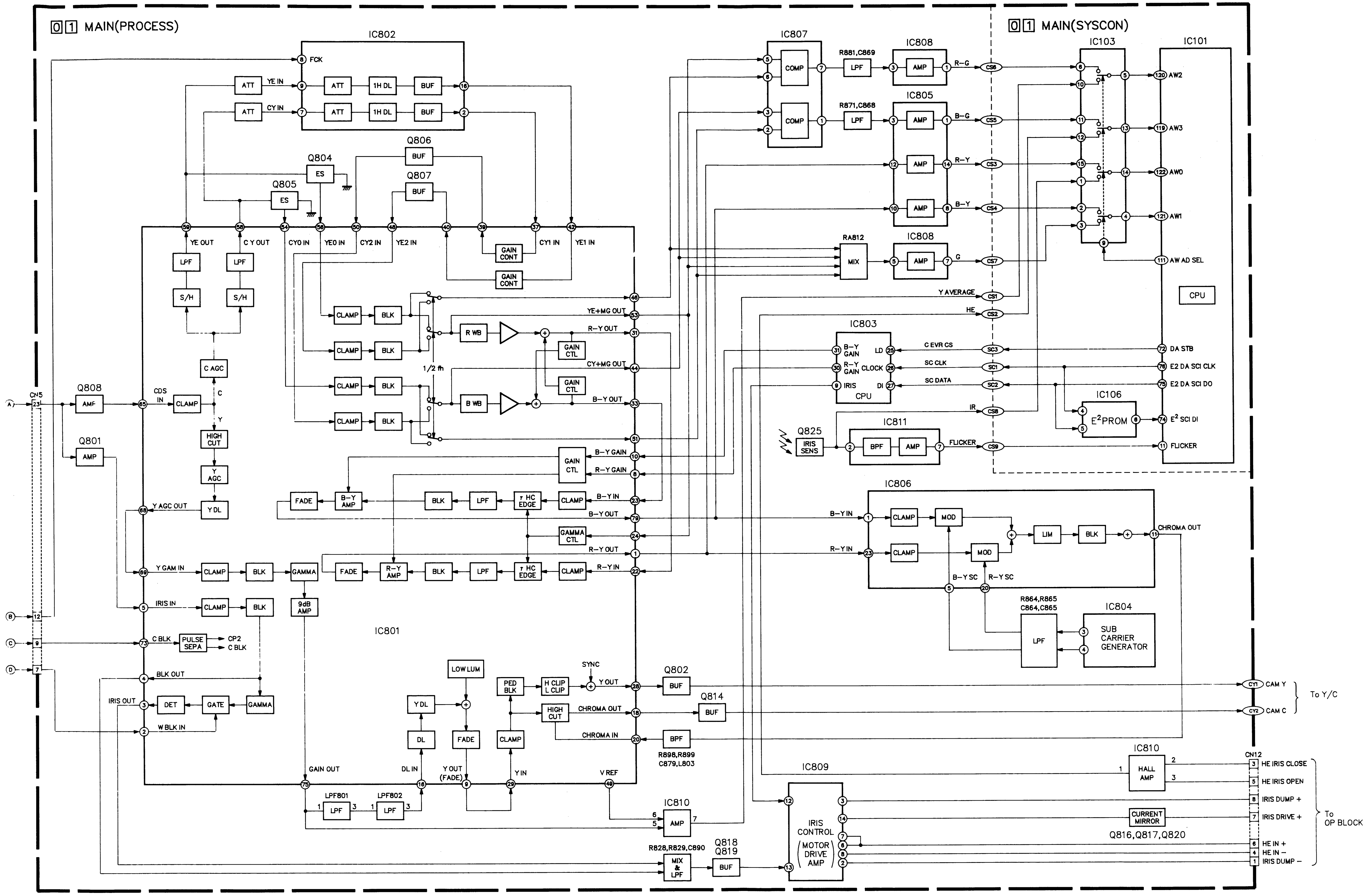

06 M_CCD
CN951
CCD SOCKET
OP BLOCK
V1
V2
V3
V4
CCD
IMAGE
SENSOR
SUB
H1
H2
VD
IRIS CONTROL
To PROCESS
-CN12
IC951
OV1
OV2
OV3
OV4
OSUB
V DRIVER
CH1
CH2
IV1
IV2
IV3
IV4
ISUB
BUF
Q951
IC953
IN
BIAS
SP 1
BLK
BLK
S/H
S/H
6dB
OUT 1
SP 2
Q956
BUF
CN952
CDS OUT
IC952
CH1
CH2
V1
V2
V3
V4
VSUB
H1
H2
FTHCP1
HCLR
FTHCP2
FCK
C BLK
WINDI
SSG & TG
OSC IN
Q955
BUF
FCK
C BLK
IRIS WIND
X951
OUT
VDD
OSC
REG 5V
(19.069928MHz)

A

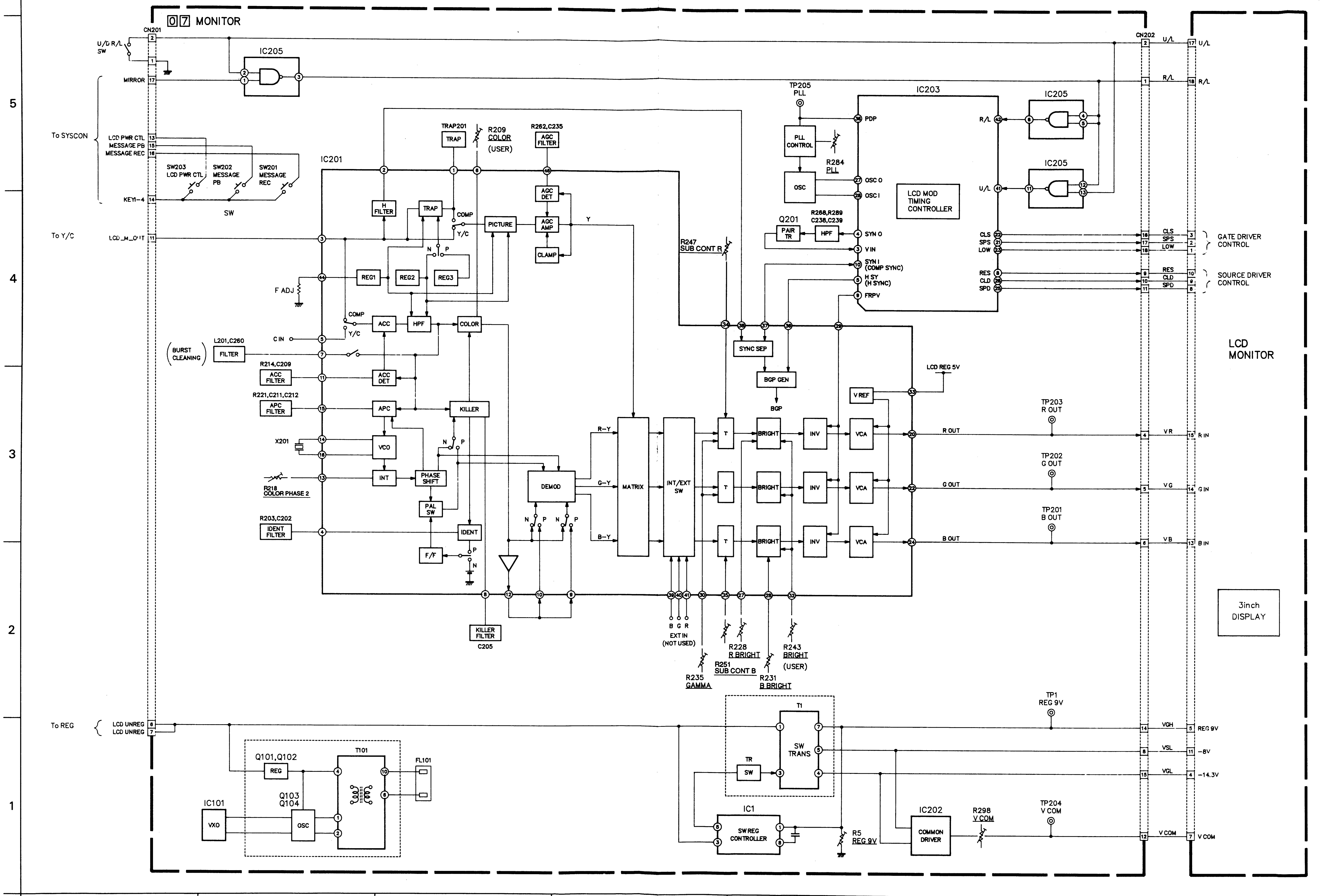
B

C

D

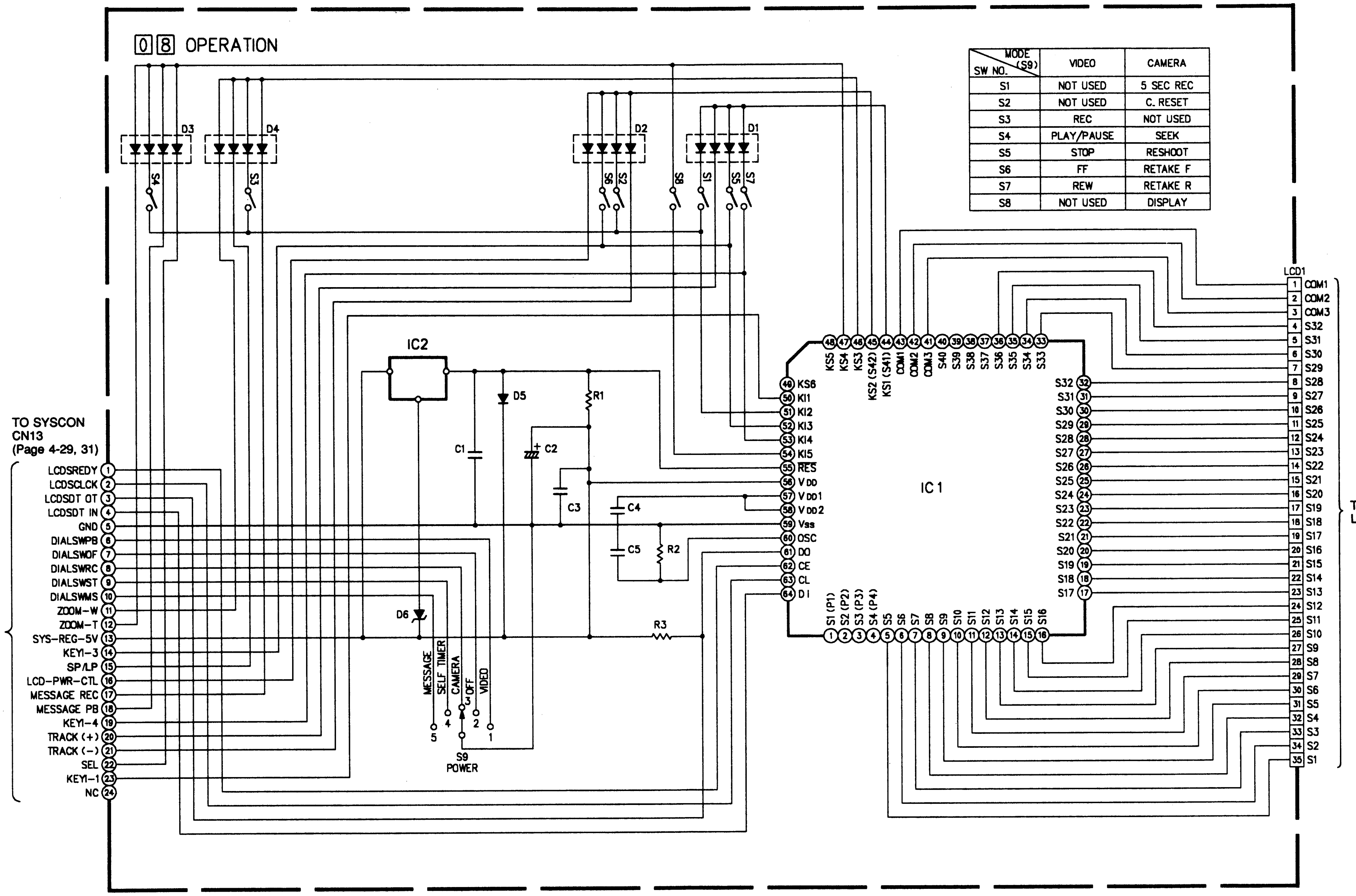

01 MAIN(PROCESS)
01 MAIN(SYSCON)
IC802
FCK
YE IN
CY IN
ATT
1H DL
BUF
Q804
Q805
Q806
Q807
ES
YE OUT
C Y OUT
CY0 IN
YE0 IN
CY2 IN
YE2 IN
CY1 IN
YE1 IN
GAIN CONT
LPF
S/H
C AGC
CDS IN
CLAMP
BLK
HIGH CUT
Y AGC
Y DL
R WB
B WB
GAIN CTL
1/2 fH
YE+MG OUT
R−Y OUT
CY+MG OUT
B−Y OUT
B−Y GAIN
R−Y GAIN
B−Y IN
R−Y IN
FADE
B−Y AMP
R−Y AMP
γ HC EDGE
GAMMA CTL
GAMMA
9dB AMP
Y AGC OUT
Y GAM IN
IRIS IN
C BLK
PULSE SEPA
CP2
BLK OUT
IRIS OUT
W BLK IN
DET
GATE
IC801
LOW LUM
PED BLK
H CLIP L CLIP
SYNC
Y OUT
CHROMA OUT
CHROMA IN
DL
GAIN OUT
DL IN
Y OUT (FADE)
Y IN
V REF
LPF801
LPF802
CN5
Q808
AMP
Q801
Q802
Q814
BPF
R898,R899 C879,L803
IC810
R828,R829,C890
Q818 Q819
MIX & LPF
IC807
COMP
R881,C869
R871,C868
IC808
IC805
R−G
B−G
R−Y
B−Y
G
RA812
MIX
IC103
IC101
AW2
AW3
AW0
AW1
AW AD SEL
CPU
Y AVERAGE
HE
IC803
LD
CLOCK
DI
IRIS
C EVR CS
SC CLK
SC DATA
DA STB
E2 DA SCI CLK
E2 DA SCI DO
IC106
E^{2}PROM
E^2 SCI DI
IR
Q825
IRIS SENS
IC811
FLICKER
IC806
MOD
LIM
B−Y SC
R−Y SC
R864,R865 C864,C865
IC804
SUB CARRIER GENERATOR
CAM Y
CAM C
To Y/C
HALL AMP
IC809
CN12
HE IRIS CLOSE
HE IRIS OPEN
IRIS DUMP +
IRIS DRIVE +
HE IN +
HE IN −
IRIS DUMP −
To OP BLOCK
CURRENT MIRROR
Q816,Q817,Q820
IRIS CONTROL (MOTOR DRIVE AMP)
E
F
G
H
I
J
K
L

4.6 MONITOR BLOCK DIAGRAM


07 MONITOR
CN201
U/D R/L SW
MIRROR
To SYSCON
LCD PWR CTL
MESSAGE PB
MESSAGE REC
KEY1−4
SW203 LCD PWR CTL
SW202 MESSAGE PB
SW201 MESSAGE REC
SW
To Y/C
LCD_M_OUT
F ADJ
C IN
BURST CLEANING
L201,C260
FILTER
R214,C209
ACC FILTER
R221,C211,C212
APC FILTER
X201
R218 COLOR PHASE 2
R203,C202
IDENT FILTER
To REG
LCD UNREG
LCD UNREG
IC205
IC201
TRAP201
TRAP
R209 COLOR (USER)
R262,C235
AGC FILTER
H FILTER
TRAP
COMP
Y/C
PICTURE
AGC DET
AGC AMP
CLAMP
Y
N
P
REG1
REG2
REG3
ACC
HPF
COLOR
ACC DET
APC
KILLER
VCO
INT
PHASE SHIFT
PAL SW
IDENT
F/F
DEMOD
R−Y
G−Y
B−Y
MATRIX
INT/EXT SW
T
BRIGHT
INV
VCA
V REF
SYNC SEP
BGP GEN
BGP
R247 SUB CONT R
KILLER FILTER
C205
B G R
EXT IN (NOT USED)
R228 R BRIGHT
R251 SUB CONT B
R243 BRIGHT (USER)
R235 GAMMA
R231 B BRIGHT
LCD REG 5V
R OUT
G OUT
B OUT
TP203 R OUT
TP202 G OUT
TP201 B OUT
TP205 PLL
PLL CONTROL
R284 PLL
OSC
IC203
PDP
OSC O
OSC I
LCD MOD TIMING CONTROLLER
Q201
PAIR TR
HPF
R268,R289
C238,C239
SYN O
VIN
SYN I (COMP SYNC)
H SY (H SYNC)
FRPV
R/L
U/L
CLS
SPS
LOW
RES
CLD
SPD
CN202
GATE DRIVER CONTROL
SOURCE DRIVER CONTROL
LCD MONITOR
3inch DISPLAY
VR
VG
VB
R IN
G IN
B IN
TP1 REG 9V
VGH
VSL
VGL
V COM
REG 9V
−8V
−14.3V
T1
SW TRANS
TR
SW
Q101,Q102
REG
T101
FL101
IC101
VXO
Q103
Q104
OSC
IC1
SW REG CONTROLLER
R5 REG 9V
IC202
COMMON DRIVER
R298 V COM
TP204 V COM
1
2
3
4
5
6
A
B
C
E
F
G
H

4.7 OPERATION SCHEMATIC DIAGRAM

NOTE: ***This schematic diagram is only for reference.***
Avoid replacing individual parts.
Replace the entire unit only.

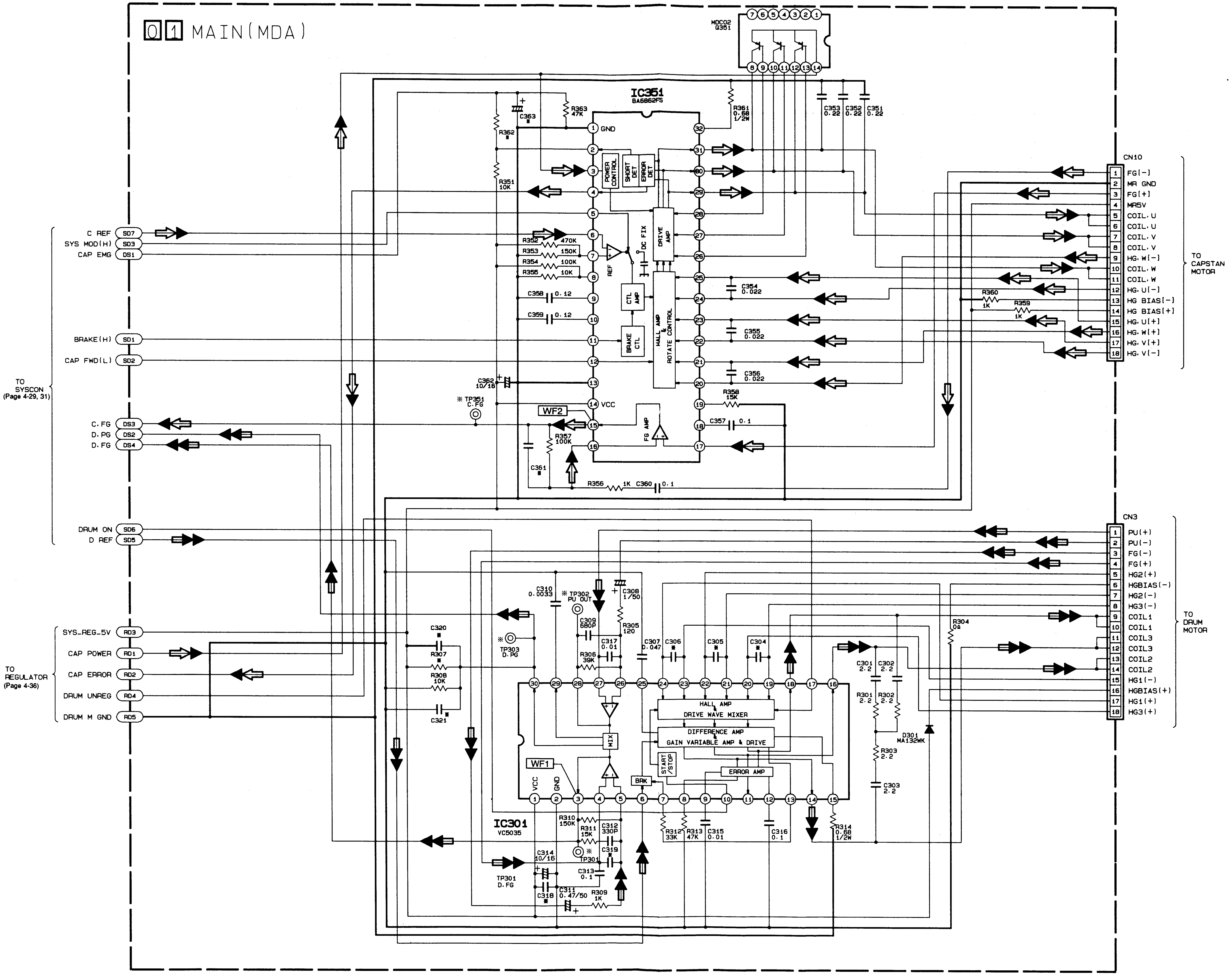


08 OPERATION
TO SYSCON
CN13
(Page 4-29, 31)
LCDSREDY 1
LCDSCLCK 2
LCDSDT OT 3
LCDSDT IN 4
GND 5
DIALSWPB 6
DIALSWOF 7
DIALSWRC 8
DIALSWST 9
DIALSWMS 10
ZOOM-W 11
ZOOM-T 12
SYS-REG-5V 13
KEYI-3 14
SP/LP 15
LCD-PWR-CTL 16
MESSAGE REC 17
MESSAGE PB 18
KEYI-4 19
TRACK (+) 20
TRACK (−) 21
SEL 22
KEYI-1 23
NC 24
IC2
D1
D2
D3
D4
D5
D6
R1
R2
R3
C1
C2
C3
C4
C5
S1
S2
S3
S4
S5
S6
S7
S8
S9
POWER
MESSAGE
SELF TIMER
CAMERA
OFF
VIDEO
1
2
3
4
5
IC 1
KS6
KI1
KI2
KI3
KI4
KI5
RES
V DD
V DD1
V DD2
Vss
OSC
DO
CE
CL
DI
S1 (P1)
S2 (P2)
S3 (P3)
S4 (P4)
S5
S6
S7
S8
S9
S10
S11
S12
S13
S14
S15
S16
S17
S18
S19
S20
S21
S22
S23
S24
S25
S26
S27
S28
S29
S30
S31
S32
S33
S34
S35
S36
S37
S38
S39
S40
COM3
COM2
COM1
KS1 (S41)
KS2 (S42)
KS3
KS4
KS5
LCD1
COM1
COM2
COM3
TO LCD

MODE (S9) / SW NO.	VIDEO	CAMERA
S1	NOT USED	5 SEC REC
S2	NOT USED	C. RESET
S3	REC	NOT USED
S4	PLAY/PAUSE	SEEK
S5	STOP	RESHOOT
S6	FF	RETAKE F
S7	REW	RETAKE R
S8	NOT USED	DISPLAY

4.8 MDA SCHEMATIC DIAGRAM

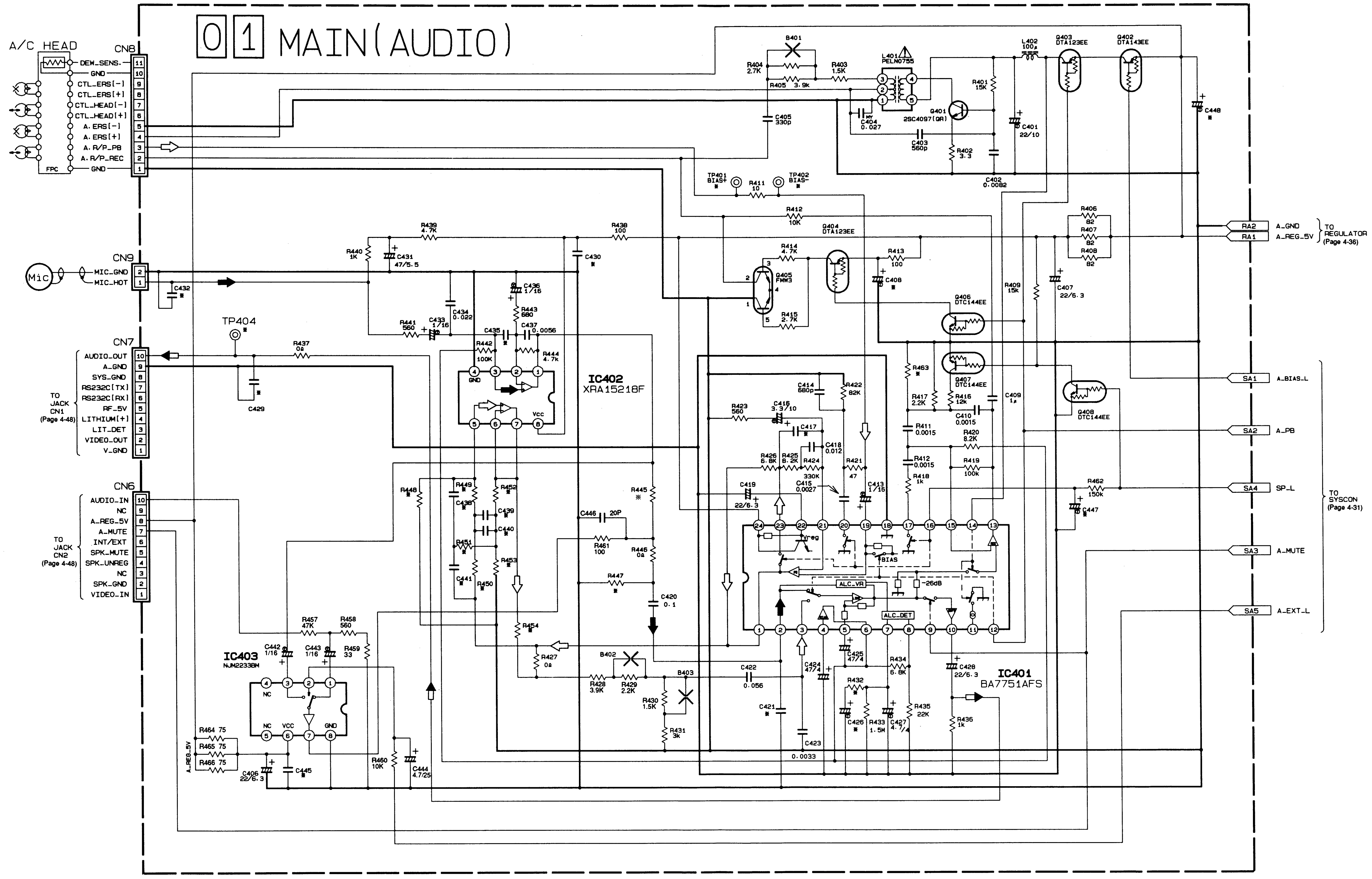
NOTE: Mark (※) is not used.



01 MAIN(MDA)
IC351
BA6862FS
IC301
VC5035
MDC02
Q351
POWER CONTROL
SHORT DET
ERROR DET
DRIVE AMP
DC FIX
REF
CTL AMP
BRAKE CTL
HALL AMP & ROTATE CONTROL
FG AMP
WF1
WF2
HALL AMP & DRIVE WAVE MIXER
DIFFERENCE AMP
GAIN VARIABLE AMP & DRIVE
START /STOP
ERROR AMP
BRK
MIX
GND
VCC
C REF SD7
SYS MOD(H) SD3
CAP EMG DS1
BRAKE(H) SD1
CAP FWD(L) SD2
TO SYSCON (Page 4-29, 31)
C.FG DS3
D.PG DS2
D.FG DS4
DRUM ON SD6
D REF SD5
SYS_REG_5V RD3
CAP POWER RD1
CAP ERROR RD2
DRUM UNREG RD4
DRUM M GND RD5
TO REGULATOR (Page 4-36)
CN10
FG(-)
MR GND
FG(+)
MR5V
COIL.U
COIL.U
COIL.V
COIL.V
HG.W(-)
COIL.W
COIL.W
HG.U(-)
HG BIAS(-)
HG BIAS(+)
HG.U(+)
HG.W(+)
HG.V(+)
HG.V(-)
TO CAPSTAN MOTOR
CN3
PU(+)
PU(-)
FG(-)
FG(+)
HG2(+)
HGBIAS(-)
HG2(-)
HG3(-)
COIL1
COIL1
COIL3
COIL3
COIL2
COIL2
HG1(-)
HGBIAS(+)
HG1(+)
HG3(+)
TO DRUM MOTOR
R363 47K
C363 ※
R362 ※
R351 10K
R352 470K
R353 150K
R354 100K
R355 10K
C358 0.12
C359 0.12
C362 10/16
※ TP351 C.FG
R357 100K
C361 ※
R356 1K
C360 0.1
R358 15K
C357 0.1
C354 0.022
C355 0.022
C356 0.022
R361 0.68 1/2W
C353 0.22
C352 0.22
C351 0.22
R360 1K
R359 1K
C310 0.0033
※ TP302 PU OUT
C308 1/50
C309 680P
R305 120
C317 0.01
R306 39K
C307 0.047
C306 ※
C305 ※
C304 ※
※ TP303 D.PG
C320 ※
R307 ※
R308 10K
C321 ※
C301 2.2
C302 2.2
R301 2.2
R302 2.2
R304 0Ω
D301 MA132WK
R303 2.2
C303 2.2
R310 150K
R311 15K
C312 330P
※ TP301
C319 ※
C313 0.1
C314 10/16
TP301 D.FG
C311 0.47/50
C318 ※
R309 1K
R312 33K
R313 47K
C315 0.01
C316 0.1
R314 0.68 1/2W

4.9 AUDIO SCHEMATIC DIAGRAM

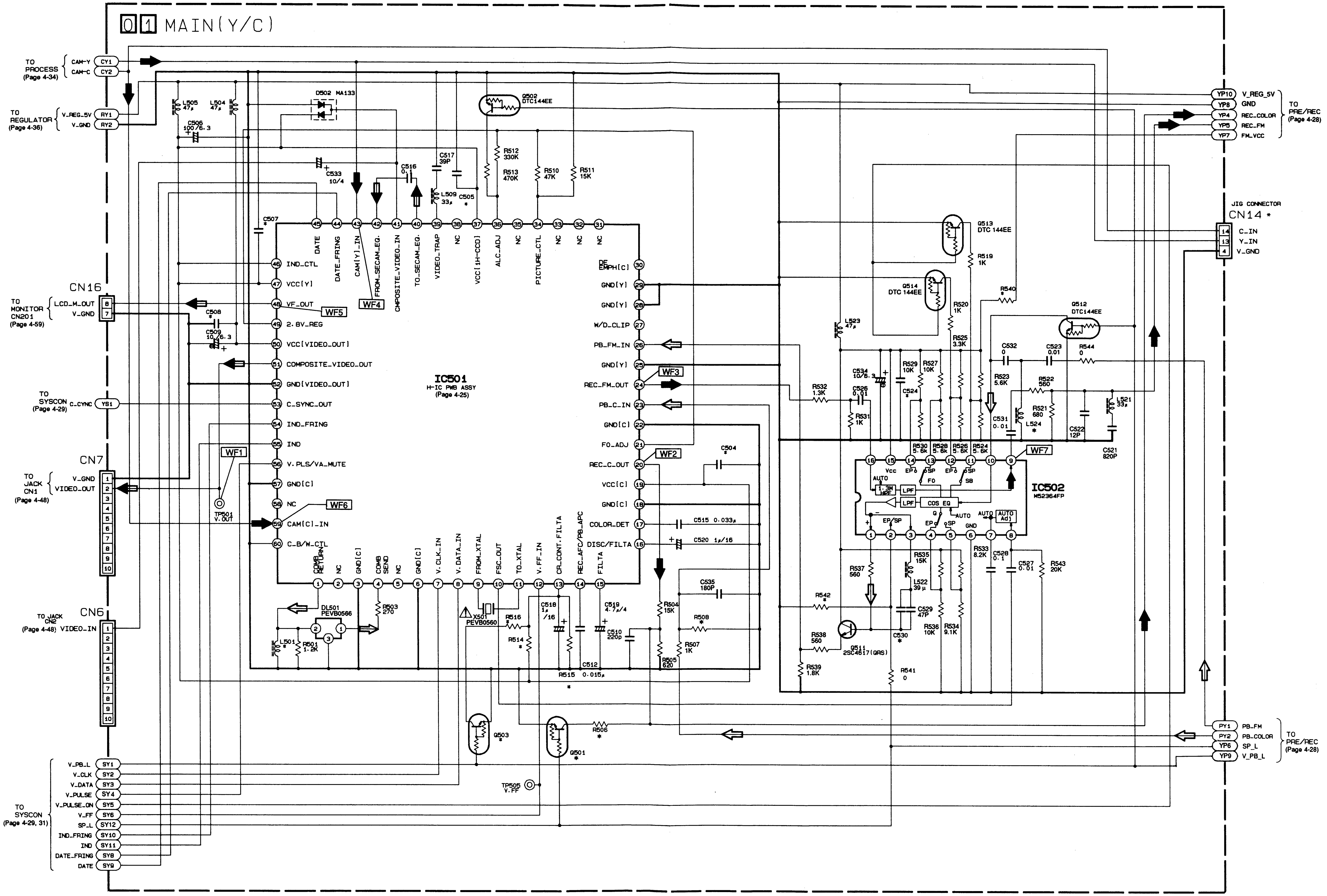
NOTE: Mark (※) is not used.



01 MAIN(AUDIO)
A/C HEAD
CN8
DEW_SENS.
GND
CTL_ERS[-]
CTL_ERS[+]
CTL_HEAD[-]
CTL_HEAD[+]
A.ERS[-]
A.ERS[+]
A.R/P_PB
A.R/P_REC
GND
FPC
CN9
Mic
MIC_GND
MIC_HOT
C432
TP404
CN7
AUDIO_OUT
A_GND
SYS_GND
RS232C[TX]
RS232C[RX]
RF_5V
LITHIUM[+]
LIT_DET
VIDEO_OUT
V_GND
TO JACK CN1 (Page 4-48)
C429
R437 0Ω
CN6
AUDIO_IN
NC
A_REG_5V
A_MUTE
INT/EXT
SPK_MUTE
SPK_UNREG
NC
SPK_GND
VIDEO_IN
TO JACK CN2 (Page 4-48)
IC403
NJM2233BM
IC402
XRA15218F
IC401
BA7751AFS
ALC_VR
ALC_DET
BIAS
-26dB
Vreg
L401 PELN0755
Q401 2SC4097(QR)
Q402 DTA143EE
Q403 DTA123EE
Q404 DTA123EE
Q405 FMW3
Q406 DTC144EE
Q407 DTC144EE
Q408 DTC144EE
L402 100μ
B401
B402
B403
TP401 BIAS+
TP402 BIAS-
R411 10
R412 10K
R404 2.7K
R405 3.9K
R403 1.5K
R401 15K
R402 3.3
C401 22/10
C402 0.0082
C403 560p
C404 0.027
C405 330p
C448
R406 82
R407 82
R408 82
R409 15K
C407 22/6.3
C408
R413 100
R414 4.7K
R415 2.7K
R438 100
R439 4.7K
R440 1K
C431 47/5.5
C430
C433 1/16
C434 0.022
C435
C436 1/16
C437 0.0056
R441 560
R442 100K
R443 680
R444 4.7K
R445
R446 0Ω
R447
R448
R449
R450
R451
R452
R453
R454
C438
C439
C440
C441
C446 20P
R461 100
C420 0.1
R427 0Ω
R428 3.9K
R429 2.2K
R430 1.5K
R431 3K
C422 0.056
C421
C423 0.0033
C424 47/4
C425 47/4
R432
C426
R433 1.5M
C427 4.7/4
R434 6.8K
R435 22K
R436 1K
C428 22/6.3
C414 680p
R422 82K
R423 560
C416 3.3/10
C417
C418 0.012
R426 6.8K
R425 8.2K
R424 330K
C415 0.0027
R421 47
C413 1/16
C419 22/6.3
R417 2.2K
R416 12K
C409 1μ
C410 0.0015
R411 0.0015
R420 8.2K
R412 0.0015
R419 100K
R418 1K
R463
R462 150K
C447
R457 47K
R458 560
R459 33
C442 1/16
C443 1/16
R464 75
R465 75
R466 75
A_REG_5V
C406 22/6.3
C445
R460 10K
C444 4.7/25
NC
VCC
GND
RA2
A_GND
RA1
A_REG_5V
TO REGULATOR (Page 4-36)
SA1
A_BIAS_L
SA2
A_PB
SA4
SP_L
SA3
A_MUTE
SA5
A_EXT_L
TO SYSCON (Page 4-31)
A
B
C
D
E
F
G
H
1
2
3
4
5
6

4.10 Y/C SCHEMATIC DIAGRAM

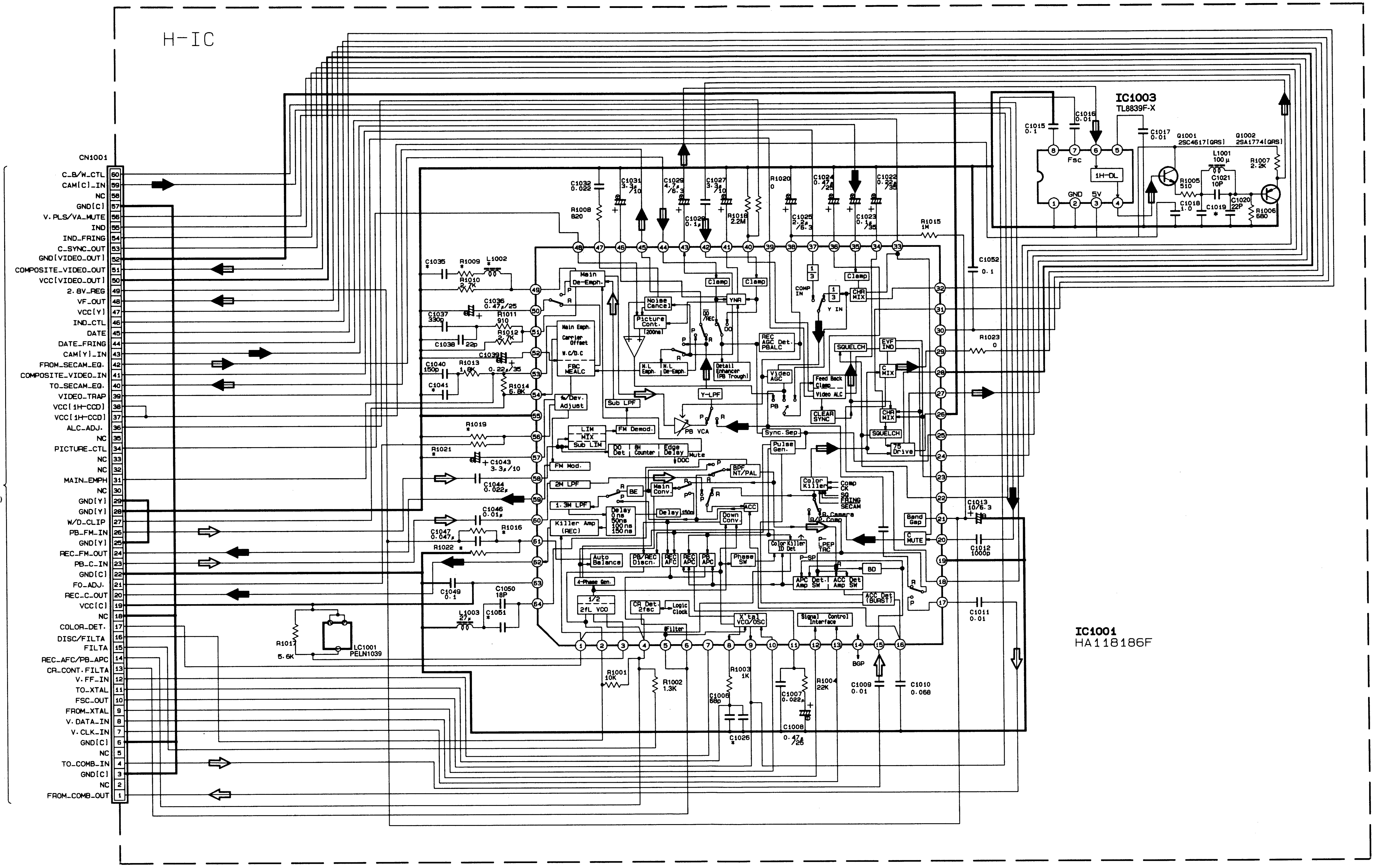
NOTE: Mark (*) is not used.



01 MAIN(Y/C)
TO PROCESS (Page 4-34)
CAM-Y CY1
CAM-C CY2
TO REGULATOR (Page 4-36)
V_REG_5V RY1
V_GND RY2
TO MONITOR CN201 (Page 4-59)
CN16
LCD_M_OUT 8
V_GND 7
TO SYSCON (Page 4-29)
C_CYNC YS1
TO JACK CN1 (Page 4-48)
CN7
V_GND
VIDEO_OUT
TO JACK CN2 (Page 4-48)
CN6
VIDEO_IN
TO SYSCON (Page 4-29, 31)
V_PB_L SY1
V_CLK SY2
V_DATA SY3
V_PULSE SY4
V_PULSE_ON SY5
V_FF SY6
SP_L SY12
IND_FRING SY10
IND SY11
DATE_FRING SY8
DATE SY9
IC501
H-IC PWB ASSY (Page 4-25)
IND_CTL
VCC(Y)
VF_OUT
2.8V_REG
VCC(VIDEO_OUT)
COMPOSITE_VIDEO_OUT
GND(VIDEO_OUT)
C_SYNC_OUT
IND_FRING
IND
V.PLS/VA_MUTE
GND(C)
NC
CAM(C)_IN
C_B/W_CTL
COMB RETURN
NC
GND(C)
COMB SEND
NC
GND(C)
V.CLK_IN
V.DATA_IN
FROM_XTAL
FSC_OUT
TO_XTAL
V.FF_IN
CR_CONT.FILTA
REC_AFC/PB_APC
FILTA
DISC/FILTA
COLOR_DET
GND(C)
VCC(C)
REC_C_OUT
FO_ADJ
GND(C)
PB_C_IN
REC_FM_OUT
GND(Y)
PB_FM_IN
W/D_CLIP
GND(Y)
GND(Y)
DE EMPH(C)
DATE
DATE_FRING
CAM(Y)_IN
FROM_SECAM_EQ.
CMPOSITE_VIDEO_IN
TO_SECAM_EQ.
VIDEO_TRAP
NC
VCC(1H-CCD)
ALC_ADJ
NC
PICTURE_CTL
NC
NC
NC
WF1
WF2
WF3
WF4
WF5
WF6
WF7
TP501 V.OUT
TP505 V.FF
D502 MA133
Q502 DTC144EE
Q501 *
Q503 *
Q511 2SC4617(QRS)
Q512 DTC144EE
Q513 DTC 144EE
Q514 DTC 144EE
DL501 PEVB0566
X501 PEVB0560
L501 *
L504 47μ
L505 47μ
L509 33μ
L521 33μ
L522 39μ
L523 47μ
L524 *
R501 1.2K
R503 270
R504 15K
R505 620
R506 *
R507 1K
R508 *
R510 47K
R511 15K
R512 330K
R513 470K
R514 *
R515 0.015μ *
R516 *
R519 1K
R520 1K
R521 680
R522 560
R523 5.6K
R524 5.6K
R525 3.3K
R526 5.6K
R527 10K
R528 5.6K
R529 10K
R530 5.6K
R531 1K
R532 1.3K
R533 8.2K
R534 9.1K
R535 15K
R536 10K
R537 560
R538 560
R539 1.8K
R540 *
R541 0
R542 *
R543 20K
R544 0
C504 *
C505 *
C506 100/6.3
C507 *
C508 *
C509 10/6.3
C510 220p
C512
C515 0.033μ
C516 0.1
C517 39P
C518 1μ/16
C519 4.7μ/4
C520 1μ/16
C521 820P
C522 12P
C523 0.01
C524 *
C526 0.01
C527 0.01
C528 0.1
C529 47P
C530 *
C531 0.01
C532 0
C533 10/4
C534 10/6.3
C535 180P
IC502
M52364FP
Vcc
EP
SP
FO
S8
AUTO
1.3M HPF
LPF
COS EQ
AUTO Adj
EP/SP
GND
JIG CONNECTOR
CN14 *
C_IN 14
Y_IN 13
V_GND 4
TO PRE/REC (Page 4-28)
V_REG_5V YP10
GND YP8
REC_COLOR YP4
REC_FM YP5
FM_VCC YP7
PB_FM PY1
PB_COLOR PY2
SP_L YP6
V_PB_L YP9

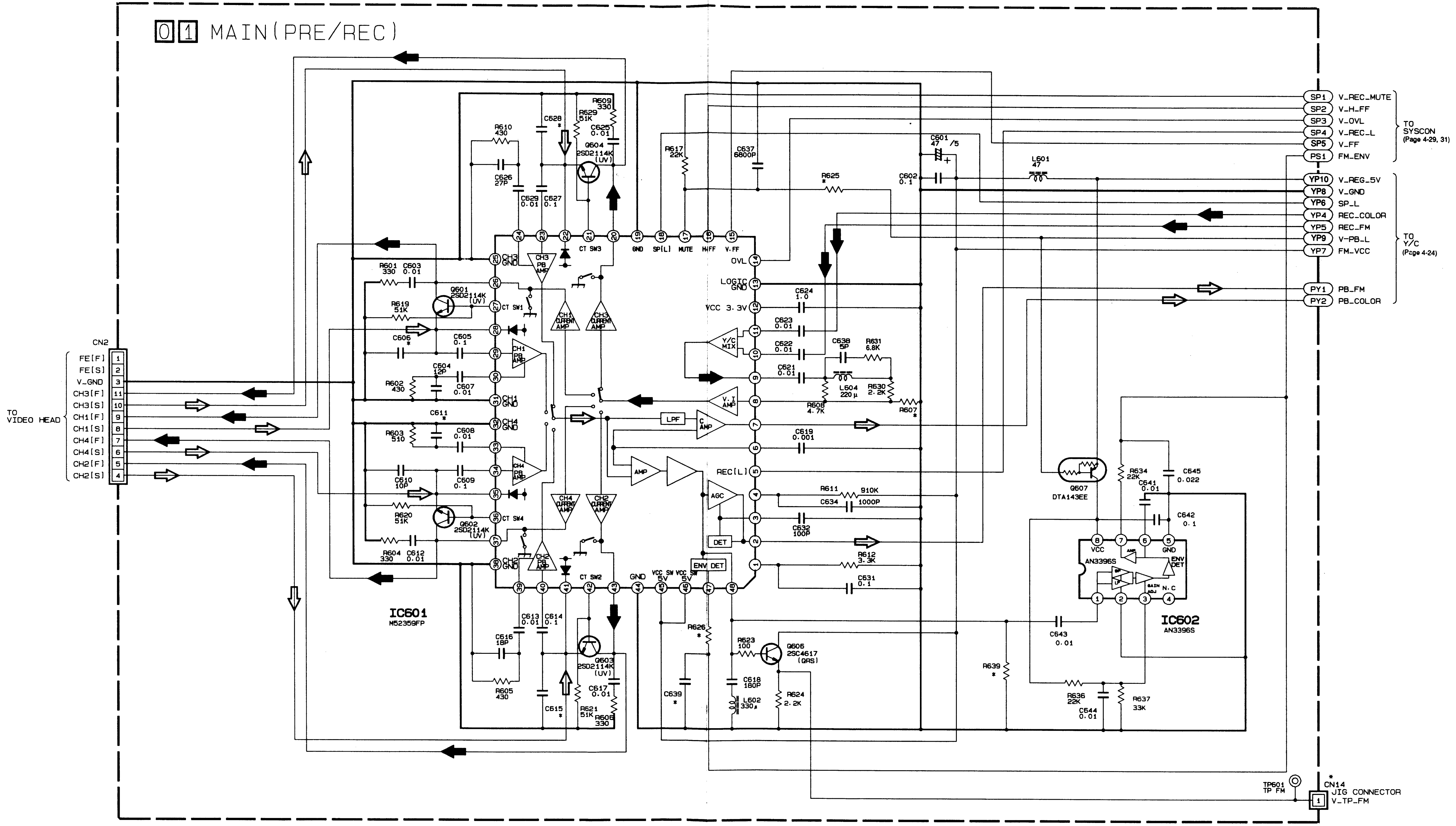
4.11 H-IC SCHEMATIC DIAGRAM

NOTE: Mark (∗) is not used.

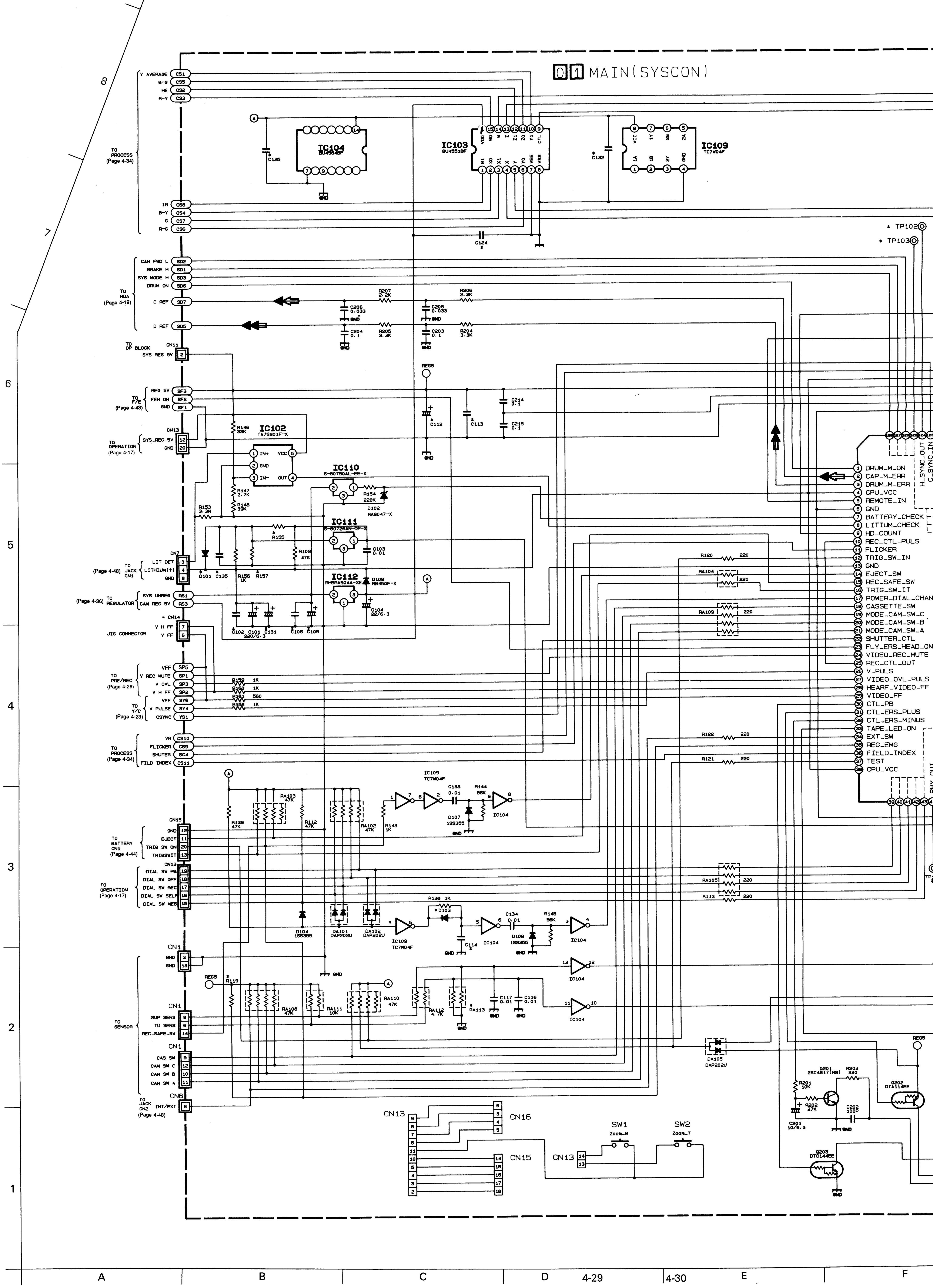

H-IC
CN1001
TO Y/C IC501 (Page 4-23)
C_B/W_CTL 60
CAM[C]_IN 59
NC 58
GND[C] 57
V.PLS/VA_MUTE 56
IND 55
IND_FRING 54
C_SYNC_OUT 53
GND[VIDEO_OUT] 52
COMPOSITE_VIDEO_OUT 51
VCC[VIDEO_OUT] 50
2.8V_REG 49
VF_OUT 48
VCC[Y] 47
IND_CTL 46
DATE 45
DATE_FRING 44
CAM[Y]_IN 43
FROM_SECAM_EQ. 42
COMPOSITE_VIDEO_IN 41
TO_SECAM_EQ. 40
VIDEO_TRAP 39
VCC[1H-CCD] 38
VCC[1H-CCD] 37
ALC_ADJ. 36
NC 35
PICTURE_CTL 34
NC 33
NC 32
MAIN_EMPH 31
NC 30
GND[Y] 29
GND[Y] 28
W/D_CLIP 27
PB_FM_IN 26
GND[Y] 25
REC_FM_OUT 24
PB_C_IN 23
GND[C] 22
FO_ADJ. 21
REC_C_OUT 20
VCC[C] 19
NC 18
COLOR_DET. 17
DISC/FILTA 16
FILTA 15
REC_AFC/PB_APC 14
CR_CONT.FILTA 13
V.FF_IN 12
TO_XTAL 11
FSC_OUT 10
FROM_XTAL 9
V.DATA_IN 8
V.CLK_IN 7
GND[C] 6
NC 5
TO_COMB_IN 4
GND[C] 3
NC 2
FROM_COMB_OUT 1
IC1001
HA118186F
IC1003
TL8839F-X
Fsc
1H-DL
GND
5V
Q1001 2SC4617[QRS]
Q1002 2SA1774[QRS]
L1001 100μ
R1007 2.2K
R1005 510
C1021 10P
C1018 1.0
C1019 ∗
C1020 22P
R1006 680
C1015 0.1
C1016 0.01
C1017 0.01
C1032 0.022
R1008 820
C1031 3.3μ/10
C1029 4.7μ/6.3
C1028 0.1μ
C1027 3.3μ/10
R1018 2.2M
R1020 0
C1025 2.2μ/6.3
C1024 0.47μ/25
C1023 0.1μ/35
C1022 0.22μ/35
R1015 1M
C1052 0.1
R1023 0
C1013 10/6.3
C1012 1000p
C1011 0.01
C1035 ∗
R1009 ∗
L1002 ∗
R1010 2.7K
C1036 0.47μ/25
C1037 330p
R1011 910
R1012 2.7K
C1038 22p
C1039
C1040 150p
R1013 1.8K
0.22μ/35
C1041 ∗
R1014 6.8K
R1019 ∗
R1021 ∗
C1043 3.3μ/10
C1044 0.022μ
C1046 0.01μ
C1047 0.047μ
R1016 ∗
R1022 ∗
C1049 0.1
C1050 18P
C1051 ∗
L1003 27μ
R1017 5.6K
LC1001 PELN1039
R1001 10K
R1002 1.3K
R1003 1K
C1006 68p
C1026 ∗
C1007 0.022μ
C1008 0.47μ/25
R1004 22K
C1009 0.01
C1010 0.068
BGP
Main De-Emph.
Noise Cancel
Picture Cont. (200ns)
YNR
Clamp
Clamp
DO/REC
DO
Main Emph.
Carrier Offset
W.C/D.C
FBC MEALC
N.L Emph.
N.L De-Emph.
Detail Enhancer (PB Trough)
Y-LPF
fo/Dev. Adjust
Sub LPF
PB VCA
LIM
MIX
Sub LIM
FM Demod.
DO Det
8H Counter
Edge Delay
Mute
DOC
FM Mod.
2M LPF
BE
Main Conv.
BPF NT/PAL
1.3M LPF
Delay 0ns 50ns 100ns 150ns
Delay 150ns
Killer Amp (REC)
Down Conv.
ACC
Auto Balance
PB/REC Discn.
REC AFC
REC APC
PB APC
Phase SW
4-Phase Gen.
1/2
2fL VCO
CR Det. 2fsc
Logic Clock
Filter
X'tal VCO/OSC
Signal Control Interface
REC AGC Det. PBALC
Video AGC
Feed Back Clamp
Video ALC
CLEAR SYNC
Sync. Sep.
Pulse Gen.
COMP IN
Y IN
1/3
CHR MIX
SQUELCH
EVF IND
C MIX
CHR MIX
SQUELCH
75 Drive
Color Killer
Comp
CK
SQ
FRING
SECAM
R.Camera
R/P.Comp
Band Gap
C MUTE
Color Killer ID Det
P-LPEP TRC
P-SP
BD
APC Det. Amp SW
ACC Det Amp SW
ACC Det (BURST)
P
R

4.12 PRE/REC SCHEMATIC DIAGRAM

NOTE: Mark (*) is not used.


01 MAIN(PRE/REC)
IC601
M52359FP
IC602
AN3396S
CN2
FE[F]
FE[S]
V_GND
CH3[F]
CH3[S]
CH1[F]
CH1[S]
CH4[F]
CH4[S]
CH2[F]
CH2[S]
TO VIDEO HEAD
SP1 V_REC_MUTE
SP2 V_H_FF
SP3 V_OVL
SP4 V_REC_L
SP5 V_FF
PS1 FM_ENV
TO SYSCON (Page 4-29, 31)
YP10 V_REG_5V
YP8 V_GND
YP6 SP_L
YP4 REC_COLOR
YP5 REC_FM
YP9 V_PB_L
YP7 FM_VCC
TO Y/C (Page 4-24)
PY1 PB_FM
PY2 PB_COLOR
TP601 TP FM
CN14 JIG CONNECTOR
V_TP_FM
Q601 2SD2114K (UV)
Q602 2SD2114K (UV)
Q603 2SD2114K (UV)
Q604 2SD2114K (UV)
Q606 2SC4617 (QRS)
Q607 DTA143EE
OVL
LOGIC GND
VCC 3.3V
REC[L]
GND
VCC SW 5V
VCC SW 5V
ENV DET
DET
AGC
AMP
LPF
C AMP
V.I AMP
Y/C MIX
CT SW1
CT SW2
CT SW3
CT SW4
CH1 PB AMP
CH2 PB AMP
CH3 PB AMP
CH4 PB AMP
CH1 CURRENT AMP
CH2 CURRENT AMP
CH3 CURRENT AMP
CH4 CURRENT AMP
CH1 GND
CH2 GND
CH3 GND
CH4 GND
SP[L]
MUTE
H/FF
V.FF
VCC
GND
ENV DET
GAIN ADJ
N.C
R601 330
C603 0.01
R619 51K
C606 *
C605 0.1
C604 12P
R602 430
C607 0.01
C611 *
R603 510
C608 0.01
C610 10P
C609 0.1
R620 51K
R604 330
C612 0.01
R610 430
C626 27P
C628 *
C629 0.01
C627 0.1
R629 51K
R609 330
C625 0.01
R617 22K
C637 6800P
R625 *
C601 47 /5
C602 0.1
L601 47
C624 1.0
C623 0.01
C622 0.01
C621 0.01
C638 5P
R631 6.8K
L604 220μ
R630 2.2K
R608 4.7K
R607 *
C619 0.001
R611 910K
C634 1000P
C632 100P
R612 3.3K
C631 0.1
C613 0.01
C614 0.1
C616 18P
R605 430
C615 *
R621 51K
C617 0.01
R606 330
R626 *
C639 *
R623 100
C618 180P
L602 330μ
R624 2.2K
R634 22K
C645 0.022
C641 0.01
C642 0.1
C643 0.01
R639 *
R636 22K
C644 0.01
R637 33K
A
B
C
D
E
F
G
H
1
2
3
4
5
6

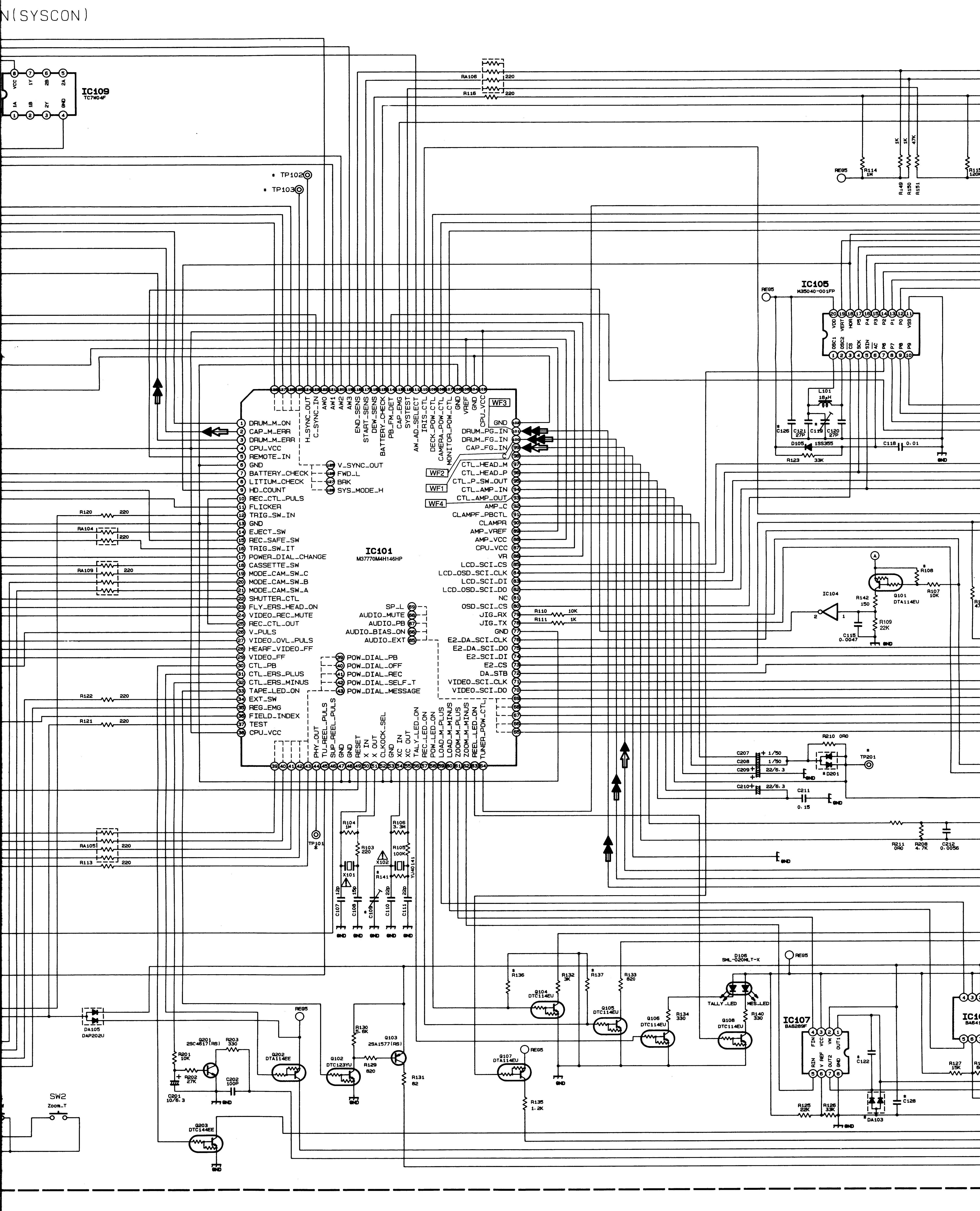
4.13 SYSCON SCHEMATIC DIAGRAM



01 MAIN(SYSCON)
TO PROCESS (Page 4-34)
Y AVERAGE CS1
B-G CS5
HE CS2
R-Y CS3
IR CS8
B-Y CS4
G CS7
R-G CS6
IC104 BU4584BF
IC103 BU4551BF
VDD W0 W Z Z1 Z0 Y1 CTL
W1 X0 X1 X Y Y0 VEE VSS
IC109 TC7W04F
VCC 1Y 2B 2A
1A 1B 2Y GND
C125
C132
C124
GND
TP102
TP103
TO MDA (Page 4-19)
CAM FWD L SD2
BRAKE H SD1
SYS MODE H SD3
DRUM ON SD6
C REF SD7
D REF SD5
R207 2.2K
R206 2.2K
C206 0.033
C205 0.033
C204 0.1
R205 3.3K
C203 0.1
R204 3.3K
TO OP BLOCK CN11
SYS REG 5V 2
REG5
TO F/E (Page 4-43)
REG 5V SF3
FEH ON SF2
GND SF1
C112
C113
C214 0.1
C215 0.1
TO OPERATION (Page 4-17)
CN13
SYS_REG_5V 12
GND 20
R146 33K
IC102 TA75901F-X
IN+ VCC
GND
IN- OUT
R147 2.7K
R148 39K
R153 3.3M
IC110 S-80750AL-EE-X
R154 220K
D102 MA8047-X
IC111 S-80726AN-DP-X
R155
R102 47K
C103 0.01
CN7
TO JACK CN1 (Page 4-48)
LIT DET 3
LITHIUM(+) 4
GND 8
D101
C135
R156 1K
R157
IC112 RH5RA50AA-XE
D109 RB450F-X
C104 22/6.3
TO REGULATOR (Page 4-36)
SYS UNREG RS1
CAM REG 5V RS3
C102 C101 C131 220/6.3
C106 C105
CN14
JIG CONNECTOR
V H FF 7
V FF 6
TO PRE/REC (Page 4-28)
VFF SP5
V REC MUTE SP1
V OVL SP3
V H FF SP2
TO Y/C (Page 4-23)
VFF SY6
V PULSE SY4
CSYNC YS1
R159 1K
R160 1K
R161 560
R158 1K
TO PROCESS (Page 4-34)
VR CS10
FLICKER CS9
SHUTER SC4
FILD INDEX CS11
R120 220
RA104 220
RA109 220
R122 220
R121 220
RA105 220
R113 220
H_SYNC_OUT
C_SYNC_IN
1 DRUM_M_ON
2 CAP_M_ERR
3 DRUM_M_ERR
4 CPU_VCC
5 REMOTE_IN
6 GND
7 BATTERY_CHECK
8 LITIUM_CHECK
9 HD_COUNT
10 REC_CTL_PULS
11 FLICKER
12 TRIG_SW_IN
13 GND
14 EJECT_SW
15 REC_SAFE_SW
16 TRIG_SW_IT
17 POWER_DIAL_CHAN
18 CASSETTE_SW
19 MODE_CAM_SW_C
20 MODE_CAM_SW_B
21 MODE_CAM_SW_A
22 SHUTTER_CTL
23 FLY_ERS_HEAD_ON
24 VIDEO_REC_MUTE
25 REC_CTL_OUT
26 V_PULS
27 VIDEO_OVL_PULS
28 HEARF_VIDEO_FF
29 VIDEO_FF
30 CTL_PB
31 CTL_ERS_PLUS
32 CTL_ERS_MINUS
33 TAPE_LED_ON
34 EXT_SW
35 REG_EMG
36 FIELD_INDEX
37 TEST
38 CPU_VCC
39 40 41 42 43
RA103 47K
R139 47K
R112 47K
RA102 47K
R143 1K
IC109 TC7W04F
C133 0.01
R144 56K
D107 1SS355
IC104
TO BATTERY CN1 (Page 4-44)
CN15
GND 12
EJECT 11
TRIG SW ON 20
TRIGSWIT 13
TO OPERATION (Page 4-17)
CN13
DIAL SW PB 19
DIAL SW OFF 18
DIAL SW REC 17
DIAL SW SELF 16
DIAL SW MES 15
R136 1K
D103
C134 0.01
R145 56K
D104 1SS355
DA101 DAP202U
DA102 DAP202U
IC109 TC7W04F
C114
D108 1SS355
IC104
CN1
GND 3
GND 13
REG5
R119
TO SENSOR
CN1
SUP SENS 8
TU SENS 6
REC_SAFE_SW 14
CN1
CAS SW 9
CAM SW C 12
CAM SW B 10
CAM SW A 11
RA108 47K
RA111 10K
RA110 47K
RA112 4.7K
RA113
C117 0.01
C116 0.01
DA105 DAP202U
TO JACK CN2 (Page 4-48)
CN6
INT/EXT 6
CN13 9 8 7 6 11 10 5 4 3 2
CN16 6 3 4 5
CN15 14 13 15 16 17 18
SW1 Zoom_W
SW2 Zoom_T
CN13 14 13
Q201 2SC4617(RS)
R203 330
R201 10K
R202 27K
C201 10/6.3
C202 100P
Q202 DTA114EE
Q203 DTC144EE
8 7 6 5 4 3 2 1
A B C D E F

NOTE: Mark (*) is not used.

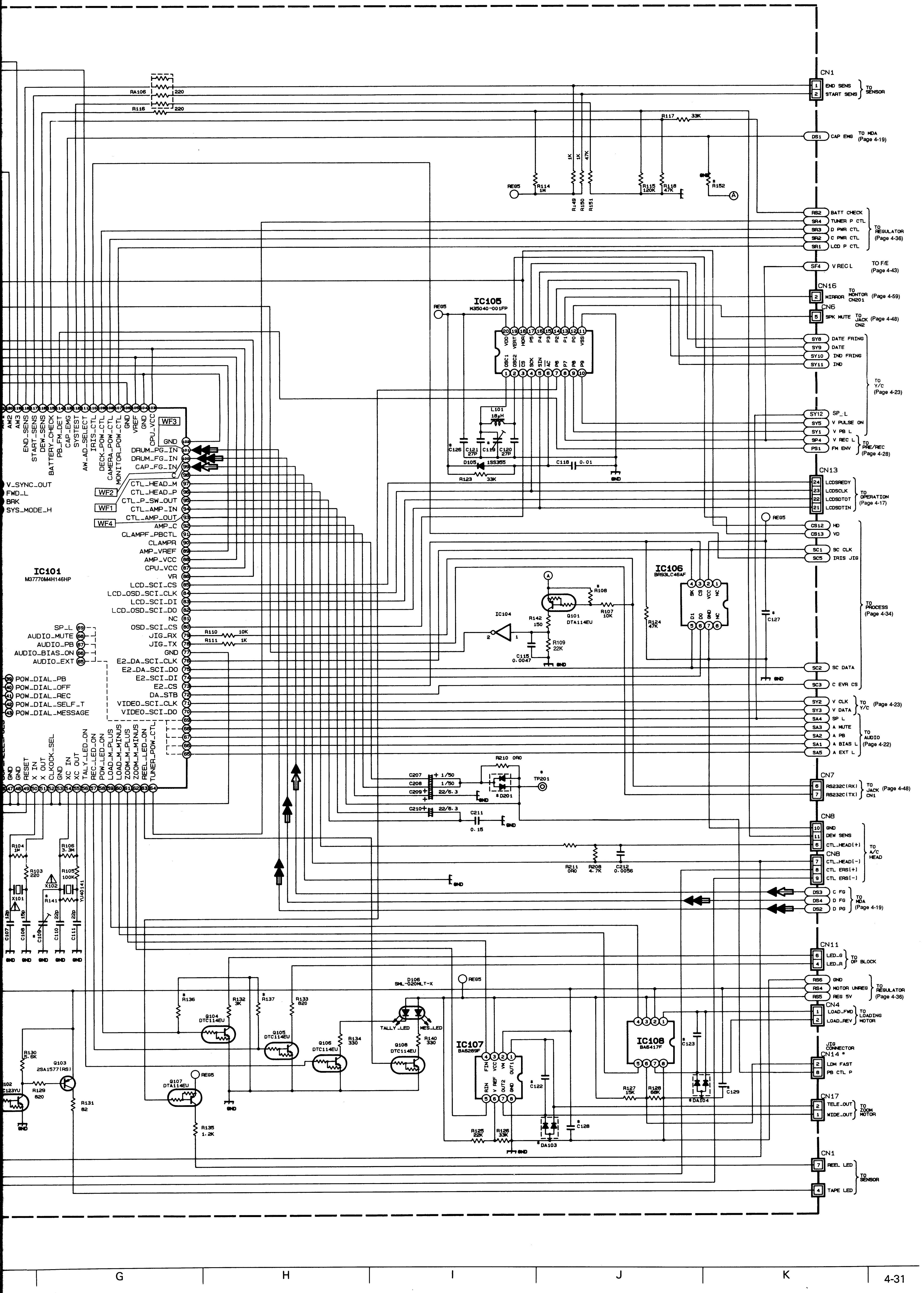
N(SYSCON)



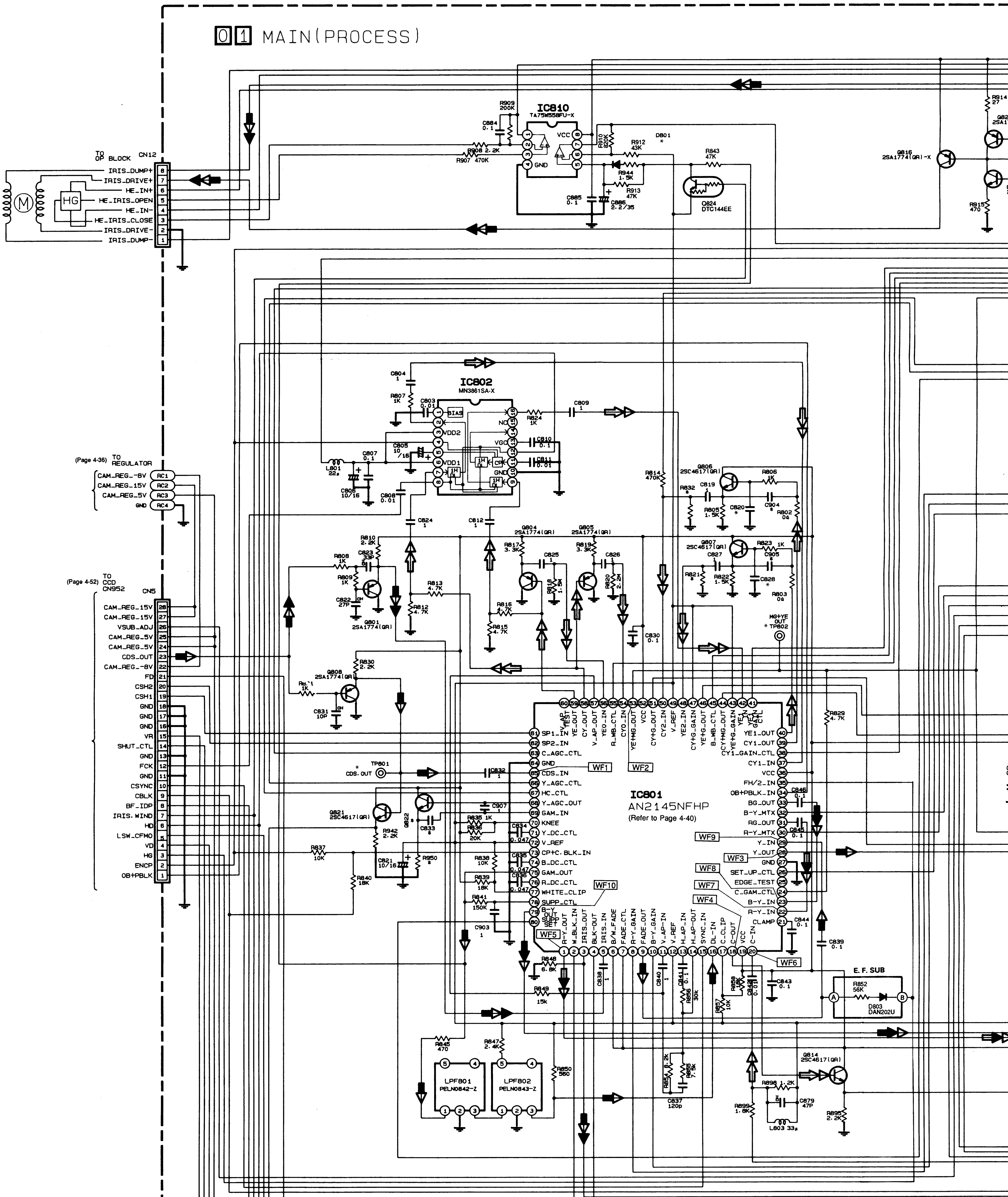
IC109
TC7W04F
VCC 1Y 2B 2A
1A 1B 2Y GND
RA106 220
R116 220
* TP102
* TP103
IC101
M37770M4H146HP
DRUM_M_ON
CAP_M_ERR
DRUM_M_ERR
CPU_VCC
REMOTE_IN
GND
BATTERY_CHECK
LITIUM_CHECK
HD_COUNT
REC_CTL_PULS
FLICKER
TRIG_SW_IN
GND
EJECT_SW
REC_SAFE_SW
TRIG_SW_IT
POWER_DIAL_CHANGE
CASSETTE_SW
MODE_CAM_SW_C
MODE_CAM_SW_B
MODE_CAM_SW_A
SHUTTER_CTL
FLY_ERS_HEAD_ON
VIDEO_REC_MUTE
REC_CTL_OUT
V_PULS
VIDEO_OVL_PULS
HEARF_VIDEO_FF
VIDEO_FF
CTL_PB
CTL_ERS_PLUS
CTL_ERS_MINUS
TAPE_LED_ON
EXT_SW
REG_EMG
FIELD_INDEX
TEST
CPU_VCC
H_SYNC_OUT
C_SYNC_IN
AW0
AW1
AW2
AW3
END_SENS
START_SENS
DEW_SENS
BATTERY_CHECK
PB_FM_DET
CAP_EMG
SYSTEST
AW_AD_SELECT
IRIS_CTL
DECK_POW_CTL
CAMERA_POW_CTL
MONITOR_POW_CTL
GND
VREF
GND
CPU_VCC
WF3
GND
DRUM_PG_IN
DRUM_FG_IN
CAP_FG_IN
C
V_SYNC_OUT
FWD_L
BRK
SYS_MODE_H
WF2
WF1
WF4
CTL_HEAD_M
CTL_HEAD_P
CTL_P_SW_OUT
CTL_AMP_IN
CTL_AMP_OUT
AMP_C
CLAMPF_PBCTL
CLAMPR
AMP_VREF
AMP_VCC
CPU_VCC
VR
LCD_SCI_CS
LCD_OSD_SCI_CLK
LCD_SCI_DI
LCD_OSD_SCI_DO
NC
OSD_SCI_CS
JIG_RX
JIG_TX
GND
E2_DA_SCI_CLK
E2_DA_SCI_DO
E2_SCI_DI
E2_CS
DA_STB
VIDEO_SCI_CLK
VIDEO_SCI_DO
SP_L
AUDIO_MUTE
AUDIO_PB
AUDIO_BIAS_ON
AUDIO_EXT
POW_DIAL_PB
POW_DIAL_OFF
POW_DIAL_REC
POW_DIAL_SELF_T
POW_DIAL_MESSAGE
PHY_OUT
TU_REEL_PULS
SUP_REEL_PULS
GND
GND
RESET
X IN
X OUT
CLOCK_SEL
GND
XC IN
XC OUT
TALY_LED_ON
REC_LED_ON
POW_LED_ON
LOAD_M_PLUS
LOAD_M_MINUS
ZOOM_M_PLUS
ZOOM_M_MINUS
REEL_LED_ON
TUNER_POW_CTL
R120 220
RA104 220
RA109 220
R122 220
R121 220
RA105 220
R113 220
TP101 *
R104 1M
R103 220
R106 3.3M
R105 100K
X101
X102
* R141
YU40141
C107 12P
C108 15P
* C109
C110 22P
C111 22P
GND
REG5
R114 1M
R149 1K
R150 1K
R151 47K
R115 120K
IC105
M35040-001FP
VDD VERT HOR P5 P4 P3 P2 P1 P0 VSS
OSC1 OSC2 CS SCK SIN AC P6 P7 P8 P9
L101 18μH
* C126
C121 27P
* C119
C120 27P
D105 1SS355
R123 33K
C118 0.01
GND
* R108
Q101 DTA114EU
R107 10K
IC104
R142 150
R109 22K
C115 0.0047
R210 0R0
C207 1/50
C208 1/50
C209 22/6.3
* TP201
* D201
C210 22/6.3
C211 0.15
R211 0R0
R208 4.7K
C212 0.0056
DA105 DAP202U
SW2 Zoom_T
REG5
Q201 2SC4617(RS)
R203 330
R201 10K
R202 27K
C202 100P
C201 10/6.3
Q202 DTA114EE
Q203 DTC144EE
R130 5.6K
Q103 2SA1577(RS)
Q102 DTC123YU
R129 820
R131 82
* R136
R132 3K
* R137
R133 820
Q104 DTC114EU
Q105 DTC114EU
Q106 DTC114EU
R134 330
Q107 DTA114EU
R135 1.2K
D106 SML-020MLT-X
TALLY_LED
MES_LED
Q108 DTC114EU
R140 330
IC107 BA6289F
FIN VCC VM OUT1
RIN V REF OUT2 GND
* C122
R125 22K
R126 33K
* DA103
C128
R127 15K
IC10
BA64

E F G H I J

NOTE: Mark (*) is not used.


CN1
END SENS
START SENS
TO SENSOR
RA106 220
R116 220
R117 33K
DS1 CAP EMG TO MDA (Page 4-19)
REG5
R114 1M
R149 1K
R150 1K
R151 47K
R115 120K
R118 47K
R152
A
RS2 BATT CHECK
SR4 TUNER P CTL
SR3 D PWR CTL
SR2 C PWR CTL
SR1 LCD P CTL
TO REGULATOR (Page 4-36)
SF4 V REC L TO F/E (Page 4-43)
CN16 MIRROR TO MONITOR CN201 (Page 4-59)
CN6 SPK MUTE TO JACK CN2 (Page 4-48)
IC105 M35040-001FP
VDD VERT HOR P5 P4 P3 P2 P1 P0 VSS
OSC1 OSC2 CS SCK SIN AC P6 P7 P8 P9
SY8 DATE FRING
SY9 DATE
SY10 IND FRING
SY11 IND
TO Y/C (Page 4-23)
L101 18μH
C126 C121 27P C119 C120 27P
D105 1SS355
R123 33K
C118 0.01
GND
SY12 SP_L
SY5 V PULSE ON
SY1 V PB L
SP4 V REC L
PS1 FM ENV
TO PRE/REC (Page 4-28)
CN13
LCDSREDY
LCDSCLK
LCDSDTOT
LCDSDTIN
TO OPERATION (Page 4-17)
CS12 HD
CS13 VD
SC1 SC CLK
SC5 IRIS JIG
TO PROCESS (Page 4-34)
IC106 BR93LC46AF
SK CS VCC NC
DI DO GND NC
R124 47K
C127
R108
R107 10K
Q101 DTA114EU
R142 150
R109 22K
C115 0.0047
IC104
SC2 SC DATA
SC3 C EVR CS
SY2 V CLK
SY3 V DATA
TO Y/C (Page 4-23)
SA4 SP L
SA3 A MUTE
SA2 A PB
SA1 A BIAS L
SA5 A EXT L
TO AUDIO (Page 4-22)
AW2 AW3 END_SENS START_SENS DEW_SENS BATTERY_CHECK PB_FM_DET CAP_EMG SYSTEST AW_AD_SELECT IRIS_CTL DECK_POW_CTL CAMERA_POW_CTL MONITOR_POW_CTL GND VREF GND CPU_VCC
WF3
GND
DRUM_PG_IN
DRUM_FG_IN
CAP_FG_IN
C
V_SYNC_OUT
FWD_L
BRK
SYS_MODE_H
WF2 CTL_HEAD_M
CTL_HEAD_P
CTL_P_SW_OUT
WF1 CTL_AMP_IN
CTL_AMP_OUT
WF4 AMP_C
CLAMPF_PBCTL
CLAMPR
AMP_VREF
AMP_VCC
CPU_VCC
VR
LCD_SCI_CS
LCD_OSD_SCI_CLK
LCD_SCI_DI
LCD_OSD_SCI_DO
NC
OSD_SCI_CS
JIG_RX
JIG_TX
GND
E2_DA_SCI_CLK
E2_DA_SCI_DO
E2_SCI_DI
E2_CS
DA_STB
VIDEO_SCI_CLK
VIDEO_SCI_DO
IC101 M37770M4H146HP
SP_L
AUDIO_MUTE
AUDIO_PB
AUDIO_BIAS_ON
AUDIO_EXT
POW_DIAL_PB
POW_DIAL_OFF
POW_DIAL_REC
POW_DIAL_SELF_T
POW_DIAL_MESSAGE
R110 10K
R111 1K
GND GND RESET X IN X OUT CLKOCK_SEL GND XC IN XC OUT TALY_LED_ON REC_LED_ON POW_LED_ON LOAD_M_PLUS LOAD_M_MINUS ZOOM_M_PLUS ZOOM_M_MINUS REEL_LED_ON TUNER_POW_CTL
C207 1/50
C208 1/50
C209 22/6.3
C210 22/6.3
C211 0.15
R210 0R0
D201
TP201
CN7 RS232C(RX) RS232C(TX) TO JACK CN1 (Page 4-48)
CN8 GND DEW SENS CTL_HEAD(+)
CN8 CTL_HEAD(-) CTL ERS(+) CTL ERS(-)
TO A/C HEAD
R211 0R0
R208 4.7K
C212 0.0056
DS3 C FG
DS4 D FG
DS2 D PG
TO MDA (Page 4-19)
R104 1M
R106 3.3M
R103 220
R105 100K
X101
X102
R141
YU40141
C107 15p C108 15p C109 C110 22p C111 22p
CN11 LED_G LED_R TO OP BLOCK
RS6 GND
RS4 MOTOR UNREG
RS5 REG 5V
TO REGULATOR (Page 4-36)
CN4 LOAD_FWD LOAD_REV TO LOADING MOTOR
D106 SML-020MLT-X
TALLY_LED MES_LED
R136 R132 3K R137 R133 820
Q104 DTC114EU
Q105 DTC114EU
Q106 DTC114EU
Q108 DTC114EU
R134 330
R140 330
Q107 DTA114EU
R135 1.2K
Q103 2SA1577(RS)
R130 2.2K
R129 820
R131 82
Q102 C123YU
IC107 BA6289F
FIN V REF VM OUT1
RIN V REF OUT2 GND
C122
DA103
C128
R125 22K
R126 33K
IC108 BA6417F
C123
DA104
C129
R127 15K
R128 68K
JIG CONNECTOR CN14 LDM FAST PB CTL P
CN17 TELE_OUT WIDE_OUT TO ZOOM MOTOR
CN1 REEL LED TAPE LED TO SENSOR
G
H
I
J
K

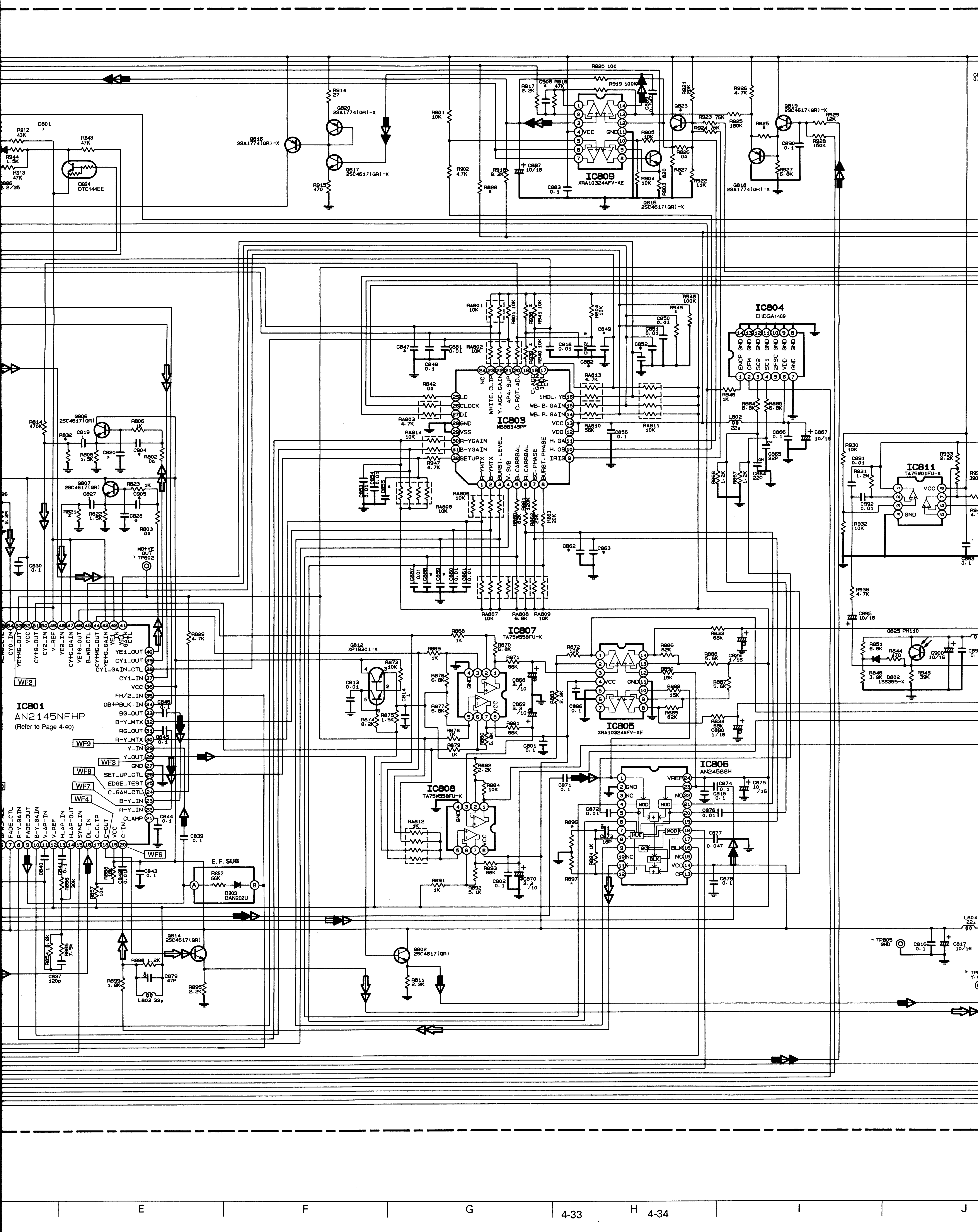
4.14 PROCESS SCHEMATIC DIAGRAM


01 MAIN(PROCESS)
TO OP BLOCK CN12
IRIS_DUMP+ 8
IRIS_DRIVE+ 7
HE_IN+ 6
HE_IRIS_OPEN 5
HE_IN- 4
HE_IRIS_CLOSE 3
IRIS_DRIVE- 2
IRIS_DUMP- 1
M
HG
IC810
TA75W558FU-X
R909 200K
C884 0.1
R908 2.2K
R907 470K
VCC
GND
R910 820K
R912 43K
D801 *
R944 1.5K
R913 47K
C885 0.1
C886 2.2/35
R843 47K
Q824 DTC144EE
Q816 2SA1774(QR)-X
R914 27
R915 470
(Page 4-36) TO REGULATOR
CAM_REG_-8V RC1
CAM_REG_15V RC2
CAM_REG_5V RC3
GND RC4
(Page 4-52) TO CCD CN952
CN5
CAM_REG_15V 28
CAM_REG_15V 27
VSUB_ADJ 26
CAM_REG_5V 25
CAM_REG_5V 24
CDS_OUT 23
CAM_REG_-8V 22
FD 21
CSH2 20
CSH1 19
GND 18
GND 17
GND 16
VR 15
SHUT_CTL 14
GND 13
FCK 12
GND 11
CSYNC 10
CBLK 9
BF_IDP 8
IRIS.WIND 7
HD 6
LSW_CFMO 5
VD 4
HG 3
ENCP 2
OB+PBLK 1
IC802
MN3861SA-X
C804 1
R807 1K
C803 0.01
BIAS
VDD2
VDD1
NC
VGC
CP
GND
1H
C805 10/16
C807 0.1
L801 22μ
C806 10/16
C808 0.01
C809 1
R824 1K
C810 0.1
C811 0.01
C824 1
C812 1
R810 2.2K
R808 1K
C823 33P
R809 1K
C822 27P
Q801 2SA1774(QR)
R813 4.7K
R812 4.7K
Q804 2SA1774(QR)
Q805 2SA1774(QR)
R817 3.3K
C825 1
R818 1.5K
R819 3.3K
C826 1
R820 2.2K
R816 4.7K
R815 4.7K
C830 0.1
R814 470K
Q806 2SC4617(QR)
R806 1K
R832 *
C819 1
R805 1.5K
C820 *
C904 *
R802 0Ω
Q807 2SC4617(QR)
R823 1K
C827 1
C905 1
R821 *
R822 1.5K
C828 *
R803 0Ω
MG+YE OUT * TP802
R829 4.7K
Q808 2SA1774(QR)
R830 2.2K
R831 1K
C831 10P
TP801 * CDS.OUT
C832 1
Q821 2SC4617(QR)
Q822
R942 2.2K
C833 *
C907 1
R835 1K
R836 20K
C834 0.047
C835 0.047
C836 0.047
R837 10K
C821 10/16
R950 *
R840 18K
R838 10K
R839 18K
R841 150K
C903 1
IC801
AN2145NFHP
(Refer to Page 4-40)
SP1_IN 61
SP2_IN 62
C_AGC_CTL 63
GND 64
CDS_IN 65
Y_AGC_CTL 66
HC_CTL 67
Y_AGC_OUT 68
GAM_IN 69
KNEE 70
Y_DC_CTL 71
V_REF 72
CP+C.BLK_IN 73
B_DC_CTL 74
GAM_OUT 75
R_DC_CTL 76
WHITE_CLIP 77
SUPP_CTL 78
B-Y OUT 79
SUPP SET 80
YE1_OUT 40
CY1_OUT 39
CY1_GAIN_CTL 38
CY1_IN 37
VCC 36
FH/2_IN 35
OB+PBLK_IN 34
BG_OUT 33
B-Y_MTX 32
RG_OUT 31
R-Y_MTX 30
Y_IN 29
Y_OUT 28
GND 27
SET_UP_CTL 26
EDGE_TEST 25
C_GAM_CTL 24
B-Y_IN 23
R-Y_IN 22
CLAMP 21
R-Y_OUT 1
W_BLK_IN 2
IRIS_OUT 3
BLK-OUT 4
IRIS_IN 5
B/W_FADE 6
FADE_CTL 7
R-Y_GAIN 8
B-Y_GAIN 9
V_AP_IN 10
V_REF 11
H_AP_IN 12
H_AP_OUT 13
SYNC_IN 14
DL_IN 15
C.CLIP 16
C_OUT 17
VCC 18
C_IN 19
20
S/P OUT 60
YE2_IN 59
YE_OUT 58
CY_OUT 57
V_AP_OUT 56
YE0_IN 55
R_WB_CTL 54
VCC 53
YE+MG_OUT 52
CY0_OUT 51
CY+G_OUT 50
CY2_IN 49
V_REF 48
YE2_IN 47
CY+G_GAIN 46
YE+G_OUT 45
B_WB_CTL 44
CY+MG_OUT 43
YE+G_GAIN 42
YE1_IN 41
YE1_CTL
WF1
WF2
WF3
WF4
WF5
WF6
WF7
WF8
WF9
WF10
C846 0.1
C845 0.1
C844 0.1
C839 0.1
R848 6.8K
R849 15k
C838 1
C840 1
C841 0.1
R856 30K
R858 *
C842 0.01
R857 10K
C843 0.1
E.F.SUB
R852 56K
D803 DAN202U
A
B
R845 470
R847 2.4K
LPF801 PELN0842-Z
LPF802 PELN0843-Z
R850 560
R854 8.2K
R855 7.5K
C837 120p
Q814 2SC4617(QR)
R898 1.2K
C879 47P
R899 1.8K
L803 33μ
R895 2.2K

NOTES: 1. Mark (*) is not u

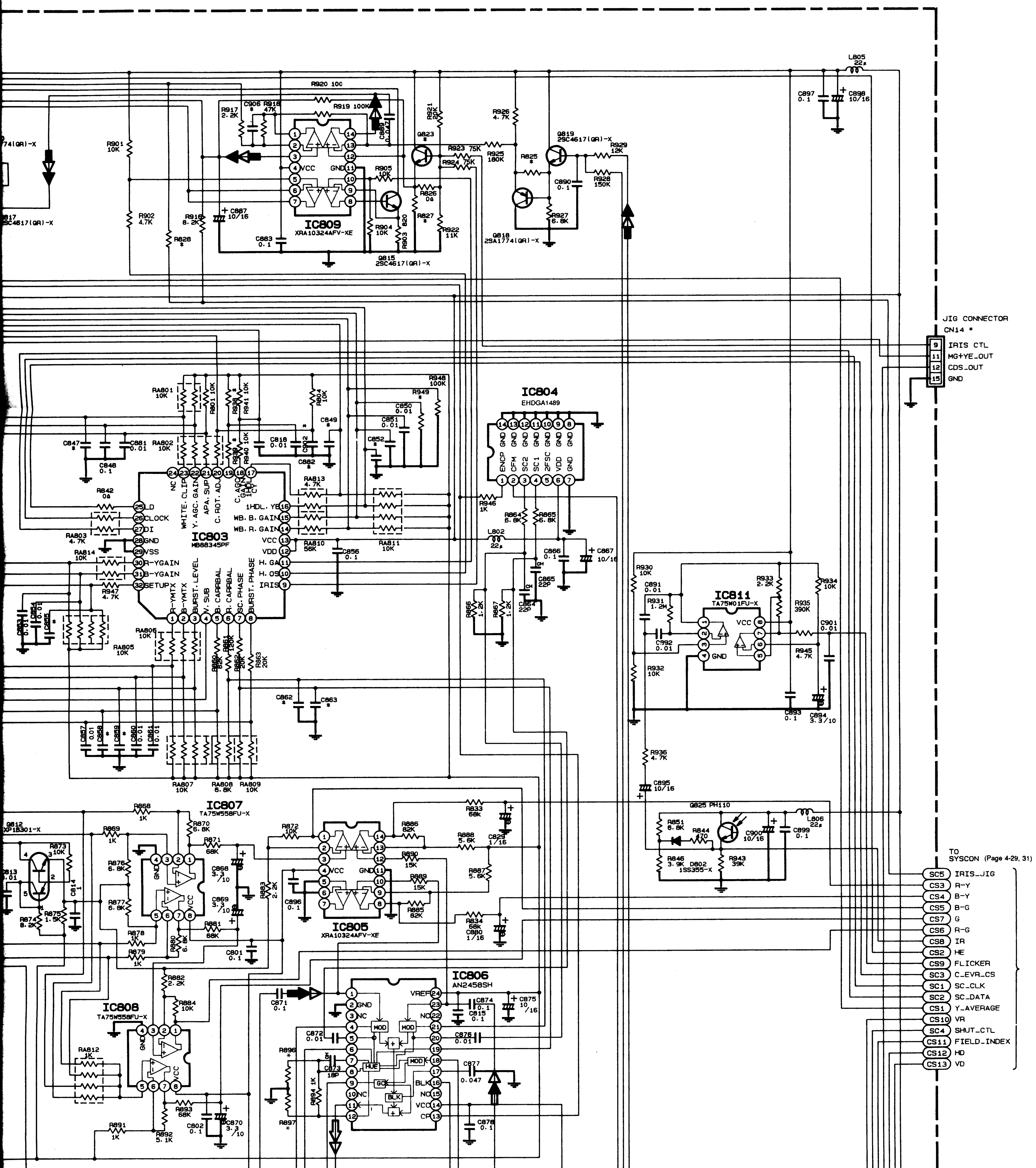
2. SIGNAL PATH S

IRIS



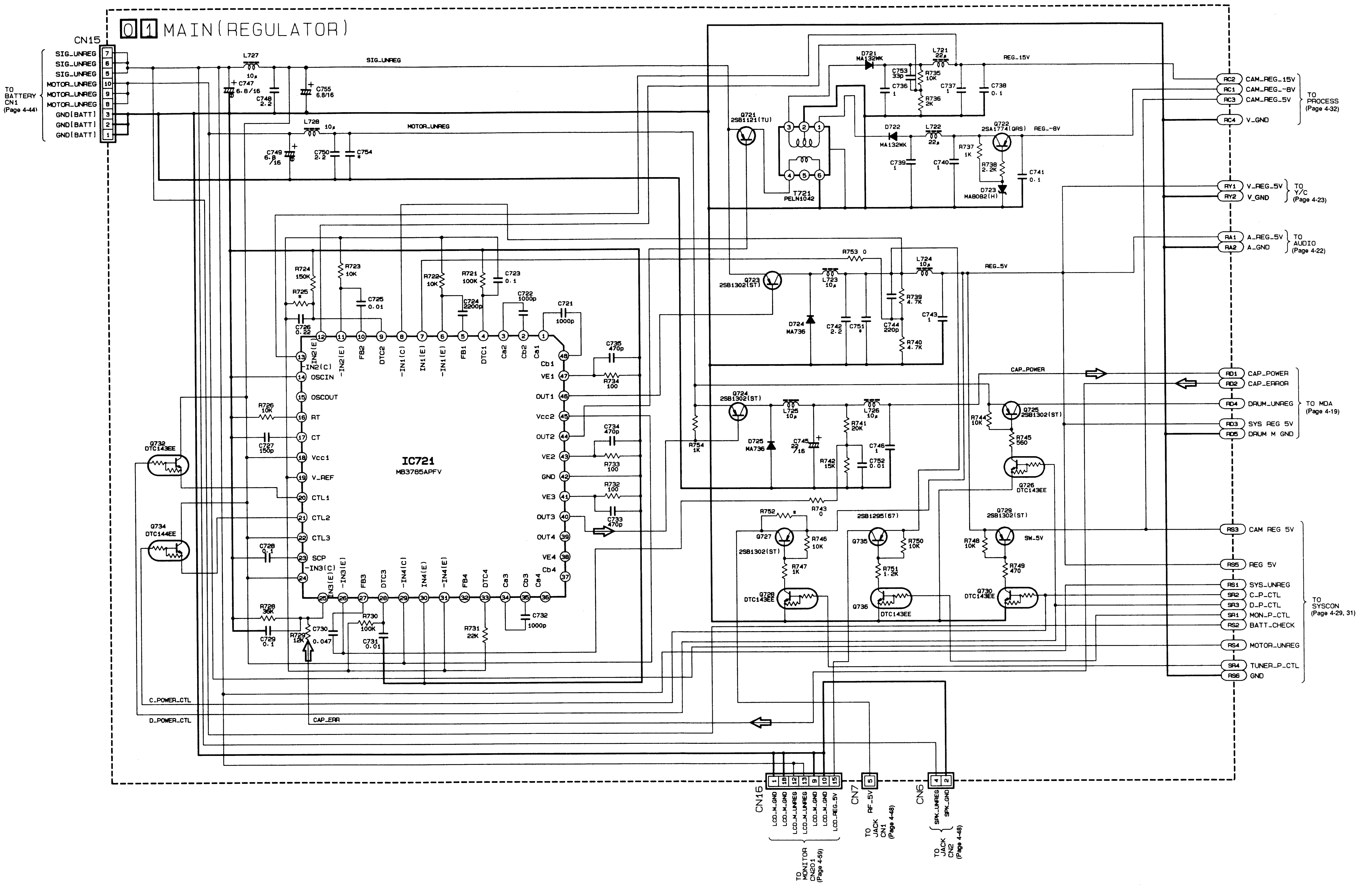
IC801
AN2145NFHP
(Refer to Page 4-40)
IC803
MB88345PF
IC804
EHDGA1489
IC805
XRA10324AFV-XE
IC806
AN2458SH
IC807
TA75W558FU-X
IC808
TA75W558FU-X
IC809
XRA10324AFV-XE
IC811
TA75W01FU-X
Q802 2SC4617(QR)
Q806 2SC4617(QR)
Q807 2SC4617(QR)
Q812 XP1B301-X
Q814 2SC4617(QR)
Q815 2SC4617(QR)-X
Q816 2SA1774(QR)-X
Q817 2SC4617(QR)-X
Q818 2SA1774(QR)-X
Q819 2SC4617(QR)-X
Q820 2SA1774(QR)-X
Q823
Q824 DTC144EE
Q825 PH110
D801
D802 1SS355-X
D803 DAN202U
E. F. SUB
L802 22μ
L803 33μ
L804 22μ
MG+YE OUT
* TP802
* TP805 GND
WF2
WF3
WF4
WF6
WF7
WF8
WF9
YE1_OUT
CY1_OUT
CY1_GAIN_CTL
CY1_IN
VCC
FH/2_IN
OB+PBLK_IN
BG_OUT
B-Y_MTX
RG_OUT
R-Y_MTX
Y_IN
Y_OUT
GND
SET_UP_CTL
EDGE_TEST
C_GAM_CTL
B-Y_IN
R-Y_IN
CLAMP
CY0_IN
YE+MG_OUT
CY+G_IN
CY2_IN
V_REF
YE2_IN
CY+G_GAIN
YE+G_OUT
B-WB_CTL
CY+MG_OUT
YE+G_GAIN
YE_IN
FADE_CTL
R-Y_GAIN
FADE_OUT
B-Y_GAIN
V_REF
V_AP-IN
H_AP-IN
H_AP-OUT
SYNC_IN
DL-IN
C_CLIP
C-OUT
VCC
C-IN
NC
WHITE. CLIP
Y. AGC. GAIN
APA. SUP
C. ROT. ADJ
C. GAIN
LD
CLOCK
DI
GND
VSS
R-YGAIN
B-YGAIN
SETUP
R-YMTX
B-YMTX
BURST. LEVEL
V. SUB
B. CARRBAL
R. CARRBAL
SC. PHASE
BURST. PHASE
1HDL. YE
WB. B. GAIN
WB. R. GAIN
VCC
VDD
H. GAIN
H. OS
IRIS
ENCP
CFM
SC2
SC1
2FSC
VDD
GND
VREF
MOD
HUE
GC
BLK
VCC
CP
NC
E
F
G
H
I
J

NOTES: 1. Mark (*) is not used.
2. SIGNAL PATH SYMBOL
➡▷ IRIS


IC809
XRA10324AFV-XE
IC803
MB88345PF
IC804
EHDGA1489
IC811
TA75W01FU-X
IC807
TA75W558FU-X
IC805
XRA10324AFV-XE
IC806
AN2458SH
IC808
TA75W558FU-X
Q823
Q819
2SC4617(QR)-X
Q825
Q818
2SA1774(QR)-X
Q815
2SC4617(QR)-X
Q802
2SC4617(QR)
Q825 PH110
D802
1SS355-X
L805
L806
L802
L804
JIG CONNECTOR
CN14 *
9 IRIS CTL
11 MG+YE_OUT
12 CDS_OUT
15 GND
TO
SYSCON (Page 4-29, 31)
SC5 IRIS_JIG
CS3 R-Y
CS4 B-Y
CS5 B-G
CS7 G
CS6 R-G
CS8 IR
CS2 HE
CS9 FLICKER
SC3 C_EVR_CS
SC1 SC_CLK
SC2 SC_DATA
CS1 Y_AVERAGE
CS10 VR
SC4 SHUT_CTL
CS11 FIELD_INDEX
CS12 HD
CS13 VD
* TP805 GND
* TP803 Y. OUT
* TP804 C. OUT
TO
Y/C (Page 4-23)
CY1 CAM_Y
CY2 CAM_C
WHITE. CLIP
Y. AGC. GAIN
APA. SUP
C. ROT. ADJ
C. AGC. GAIN
1HDL. YE
WB. B. GAIN
WB. R. GAIN
VCC
VDD
H. GAIN
H. OS
IRIS
LD
CLOCK
DI
GND
VSS
R-YGAIN
B-YGAIN
SETUP
R-YMTX
B-YMTX
BURST. LEVEL
V. SUB
B. CARRBAL
R. CARRBAL
SC. PHASE
BURST. PHASE
ENCP
CFM
SC2
SC1
2FSC
VDD
GND
MOD
HUE
GCK
BLK
VREF
NC
VCC
CP

4.15 REGULATOR SCHEMATIC DIAGRAM

NOTE: Mark (*) is not used.


01 MAIN(REGULATOR)
CN15
SIG_UNREG
SIG_UNREG
SIG_UNREG
MOTOR_UNREG
MOTOR_UNREG
MOTOR_UNREG
GND(BATT)
GND(BATT)
GND(BATT)
TO BATTERY CN1 (Page 4-44)
L727 10μ
C747 6.8/16
C748 2.2
C755 6.8/16
L728 10μ
C749 6.8/16
C750 2.2
C754 *
SIG_UNREG
MOTOR_UNREG
IC721 MB3785APFV
R723 10K
R724 150K
R725 *
C726 0.22
C725 0.01
R722 10K
R721 100K
C723 0.1
C724 2200p
C722 1000p
C721 1000p
C735 470p
R734 100
C734 470p
R733 100
R732 100
C733 470p
C732 1000p
R731 22K
R730 100K
C731 0.01
R729 12K
C730 0.047
R728 36K
C729 0.1
C728 0.1
C727 150p
R726 10K
Q732 DTC143EE
Q734 DTC144EE
-IN2(C)
OSCIN
OSCOUT
RT
CT
Vcc1
V_REF
CTL1
CTL2
CTL3
SCP
-IN3(C)
IN2(E)
-IN2(E)
FB2
DTC2
-IN1(C)
IN1(E)
-IN1(E)
FB1
DTC1
Ca2
Cb2
Ca1
Cb1
VE1
OUT1
Vcc2
OUT2
VE2
GND
VE3
OUT3
OUT4
VE4
Cb4
IN3(E)
-IN3(E)
FB3
DTC3
-IN4(C)
IN4(E)
-IN4(E)
FB4
DTC4
Ca3
Cb3
Ca4
C_POWER_CTL
D_POWER_CTL
CAP_ERR
D721 MA132WK
L721 22μ
C753 33p
R735 10K
C736 1
C737 1
R736 2K
C738 0.1
REG_15V
Q721 2SB1121(TU)
T721 PELN1042
D722 MA132WK
L722 22μ
Q722 2SA1774(QRS)
REG_-8V
R737 1K
R738 2.2K
C739 1
C740 1
C741 0.1
D723 MA8082(H)
R753 0
L724 10μ
REG_5V
Q723 2SB1302(ST)
L723 10μ
D724 MA736
C742 2.2
C751 *
C744 220p
R739 4.7K
C743 1
R740 4.7K
CAP_POWER
Q724 2SB1302(ST)
L725 10μ
L726 10μ
D725 MA736
C745 22/16
R741 20K
R742 15K
C746 1
C752 0.01
R754 1K
Q725 2SB1302(ST)
R744 10K
R745 560
Q726 DTC143EE
R752 *
R743 0
Q727 2SB1302(ST)
R746 10K
R747 1K
Q728 DTC143EE
2SB1295(67)
Q735
R750 10K
R751 1.2K
Q736 DTC143EE
Q729 2SB1302(ST)
SW_5V
R748 10K
R749 470
Q730 DTC143EE
RC2 CAM_REG_15V
RC1 CAM_REG_-8V
RC3 CAM_REG_5V
RC4 V_GND
TO PROCESS (Page 4-32)
RY1 V_REG_5V
RY2 V_GND
TO Y/C (Page 4-23)
RA1 A_REG_5V
RA2 A_GND
TO AUDIO (Page 4-22)
RD1 CAP_POWER
RD2 CAP_ERROR
RD4 DRUM_UNREG
RD3 SYS REG 5V
RD5 DRUM M GND
TO MDA (Page 4-19)
RS3 CAM REG 5V
RS5 REG 5V
RS1 SYS_UNREG
SR2 C_P_CTL
SR3 D_P_CTL
SR1 MON_P_CTL
RS2 BATT_CHECK
RS4 MOTOR_UNREG
SR4 TUNER_P_CTL
RS6 GND
TO SYSCON (Page 4-29, 31)
CN16
LCD_M_GND
LCD_M_GND
LCD_M_UNREG
LCD_M_UNREG
LCD_M_GND
LCD_M_GND
LCD_REG_5V
TO MONITOR CN201 (Page 4-59)
CN7
RF_5V
TO JACK CN1 (Page 4-48)
CN6
SPK_UNREG
SPK_GND
TO JACK CN2 (Page 4-48)

4.16 MAIN, H-IC AND E. F. SUB CIRCUIT BOARDS

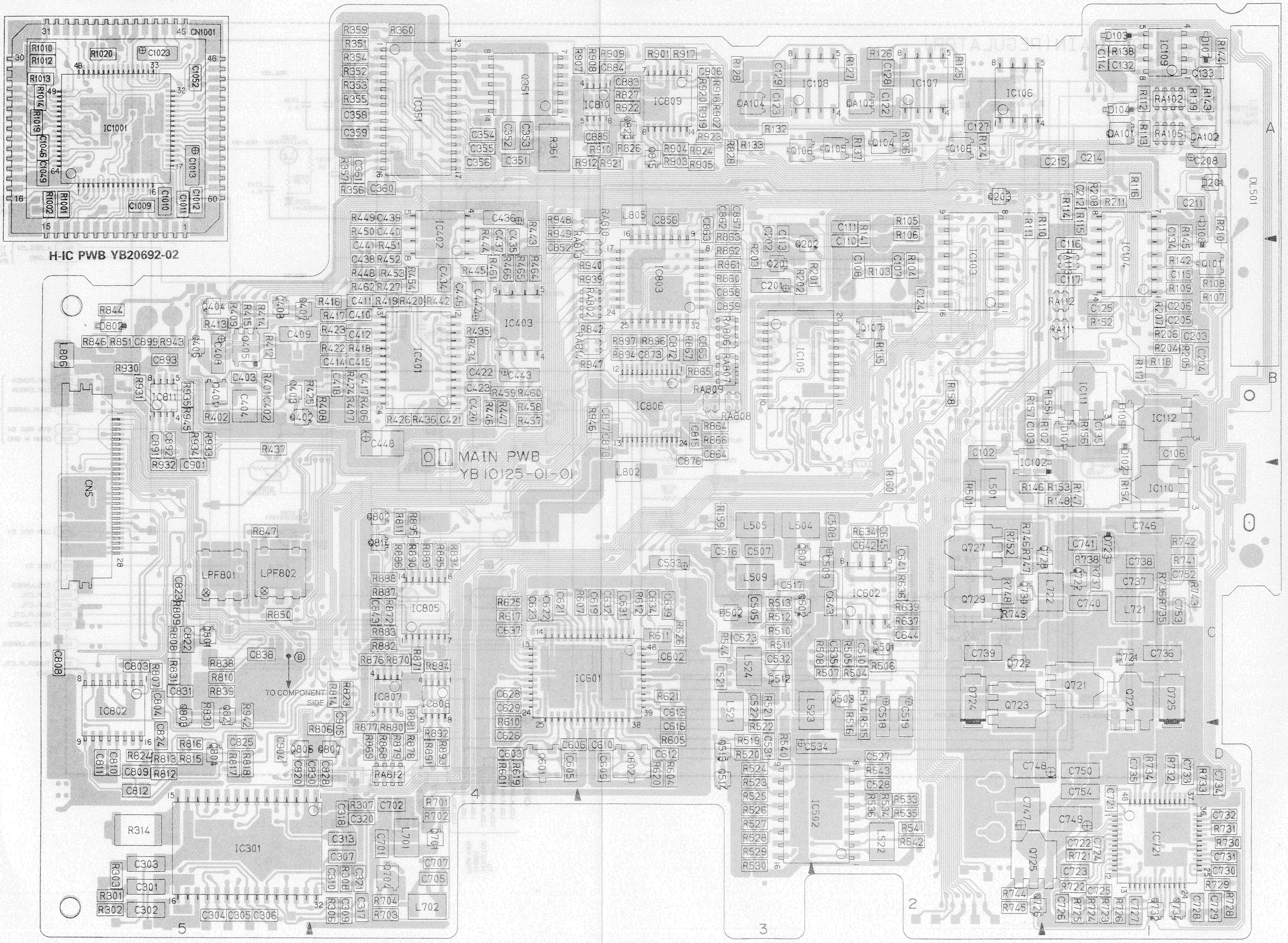
— H-IC —

FOIL SIDE (B)

H-IC PWB YB20692-02

— MAIN —

FOIL SIDE (B)


MAIN PWB
YB10125-01-01
TO COMPONENT SIDE
IC301
IC351
IC401
IC402
IC403
IC601
IC602
IC802
IC803
IC805
IC806
IC807
IC808
IC809
IC810
IC811
IC103
IC104
IC105
IC106
IC107
IC108
IC109
IC110
IC111
IC112
IC502
IC721
CN5
LPF801
LPF802
DL501

PARTS LOCATION GUIDE <MAIN BOARD>

I C	
IC101	A-1B
IC102	B-2C
IC103	B-2B
IC104	B-1B
IC105	B-3B
IC106	B-2A
IC107	B-2A
IC108	B-3A
IC109	B-1A
IC110	B-1C
IC111	B-1B
IC112	B-1B
IC301	B-5D
IC351	B-4A
IC401	B-4B
IC402	B-4A
IC403	B-4B
IC502	B-3D
IC601	B-3C
IC602	B-2C
IC721	B-1D
IC801	A-4B
IC802	B-5C
IC803	B-3B
IC804	A-3B
IC805	B-4C
IC806	B-3B
IC807	B-4C
IC808	B-4C
IC809	B-3A
IC810	B-3A
IC811	B-5B
TRANSISTOR	
Q101	B-1B
Q102	A-2B
Q103	A-1D
Q104	B-2A
Q105	B-2A
Q106	B-3A
Q107	B-2B
Q108	B-2A
Q201	B-3B
Q202	B-3B
Q203	B-2A
Q351	B-4A
Q401	B-5B
Q402	B-5B
Q403	B-5B
Q404	B-5B
Q405	B-5B
Q406	B-5B
Q407	B-5B
Q408	B-5B
Q501	B-2C
Q502	B-3C
Q503	B-2C
Q511	A-3D
Q512	B-3C
Q513	B-3D
Q514	B-3D
Q601	B-4D
Q602	B-3D
Q603	A-3C
Q604	A-4C
Q606	A-3C
Q607	B-3C
Q701	B-4D
Q702	A-4D
Q703	A-4D
Q704	B-4D
Q721	B-1C
Q722	B-1C
Q723	B-2C
Q724	B-1C
Q725	B-1D
Q726	B-1D
Q727	B-2C
Q728	B-2C
Q729	B-2C
Q730	B-2C
Q732	B-1D
Q734	B-1D
Q735	A-1C
Q736	A-1C
Q801	B-5C
Q802	B-4C
Q804	B-5D
Q805	A-5D
Q806	B-5D
Q807	B-4D
Q808	B-5C
Q812	A-4D
Q814	B-4C
Q815	B-3A
Q816	A-3A
Q817	A-3A
Q818	A-3A
Q819	A-4A
Q820	A-3A
Q821	B-5C
Q822	A-5C
Q823	B-3A
Q824	A-5C
Q825	A-5B
DIODE	
D101	B-1B
D102	B-1B
D103	B-1A
D104	B-1A
D105	A-2B
D106	A-3D
D107	B-1A
D108	B-1A
D109	B-1B
DA101	B-1A
DA102	B-1A
DA103	B-2A
DA104	B-3A
DA105	A-2B
D201	B-1A
D301	A-5D
D502	B-3C
D721	B-1C
D722	B-2C
D723	B-1C
D724	B-2C
D725	B-1C
D801	A-3A
D802	B-5B
RESISTOR	
R102	B-2B
R103	B-2B
R104	B-2B
R105	B-2A
R106	B-2A
R107	B-1B
R108	B-1B
R109	B-1B
R110	B-2A
R111	B-2A
R112	B-1A
R113	B-1A
R114	B-1A
R115	B-1A
R116	B-1A
R117	B-1B
R118	B-1B
R119	A-1B
R120	A-1B
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R122	A-2B
R123	A-3B
R124	B-2A
R125	B-2A
R126	B-2A
R127	B-2A
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R135	B-2B
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R141	B-2A
R142	B-1B
R143	B-1A
R144	B-1A
R145	B-1A
R146	B-2C
R147	B-1C
R148	B-1C
R149	A-1B
R150	A-1B
R151	A-1B
R152	B-1B
R153	B-1C
R154	B-1C
R155	B-2B
R156	B-1B
R157	B-2B
R158	B-2B
R159	B-3C
R160	B-2C
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R208	B-1A
R210	B-1A
R211	B-1A
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R303	B-5D
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R307	B-4D
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R310	A-5D
R311	A-4D
R312	A-5D
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R314	B-5D
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R362	A-4A
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R401	B-5B
R402	B-5B
R403	A-5B
R404	A-5B
R405	A-5B
R406	B-4B
R407	B-4B
R408	B-4B
R409	B-5B
R411	A-4B
R412	B-5B
R413	B-5B
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R431	A-4B
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R433	A-4B
R434	B-4B
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R437	B-5B
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R634	B-2C
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R637	B-2C
R639	B-2C
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R702	B-4D
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R740	A-1C
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R743	B-1C
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R745	B-2D
R746	B-2C
R747	B-2C
R748	B-2C
R749	B-2C
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R751	A-1C
R752	B-2C
R753	A-1C
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R804	A-3B
R805	A-5D
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R820	A-5D
R821	A-4D
R822	A-4D
R823	B-4C
R824	B-5D
R825	A-3A
R826	B-3A
R827	B-3A
R828	B-3A
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R831	A-5C
R832	A-4D
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R837	A-5C
R838	A-5D
R839	A-5D
R840	A-5C
R841	A-5C
R842	B-3B
R843	A-5C
R844	B-5B
R845	A-5C
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R868	B-4C
R869	B-4C
R870	B-4C
R871	B-4C
R872	B-4C
R873	A-4C
R874	A-4D
R875	A-4D
R876	B-4C
R877	B-4D
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R882	B-4C
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R939	B-3B
R940	B-3B
R941	A-3B
R942	A-5C
R943	B-5B
R944	A-3A
R945	B-5B
R946	B-3B
R947	B-3B
R948	B-4A
R949	B-4A
R950	A-5C
NETWORK RESISTOR	
RA102	B-1A
RA103	A-1B
RA104	A-1B
RA105	B-1A
RA106	A-1B
RA108	A-2B
RA109	A-1B
RA110	A-1B
RA111	B-1B
RA112	B-1B
RA113	B-1B
RA801	A-3B
RA802	B-3B
RA803	A-3A
RA805	A-3B
RA806	B-3B
RA807	B-3B
RA808	B-3B
RA809	B-3B
RA810	B-3B
RA811	A-3B
RA812	B-4C
RA813	B-3B
RA814	B-3B
CAPACITOR	
C101	A-2B
C102	B-2B
C103	B-2B
C104	A-1B
C105	A-1B
C106	B-1B
C107	B-2B
C108	B-2B
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C901	B-5C
C902	A-4B
C903	A-5C
C904	B-5D
C905	B-4D
C906	B-3A
C907	A-5C
COIL	
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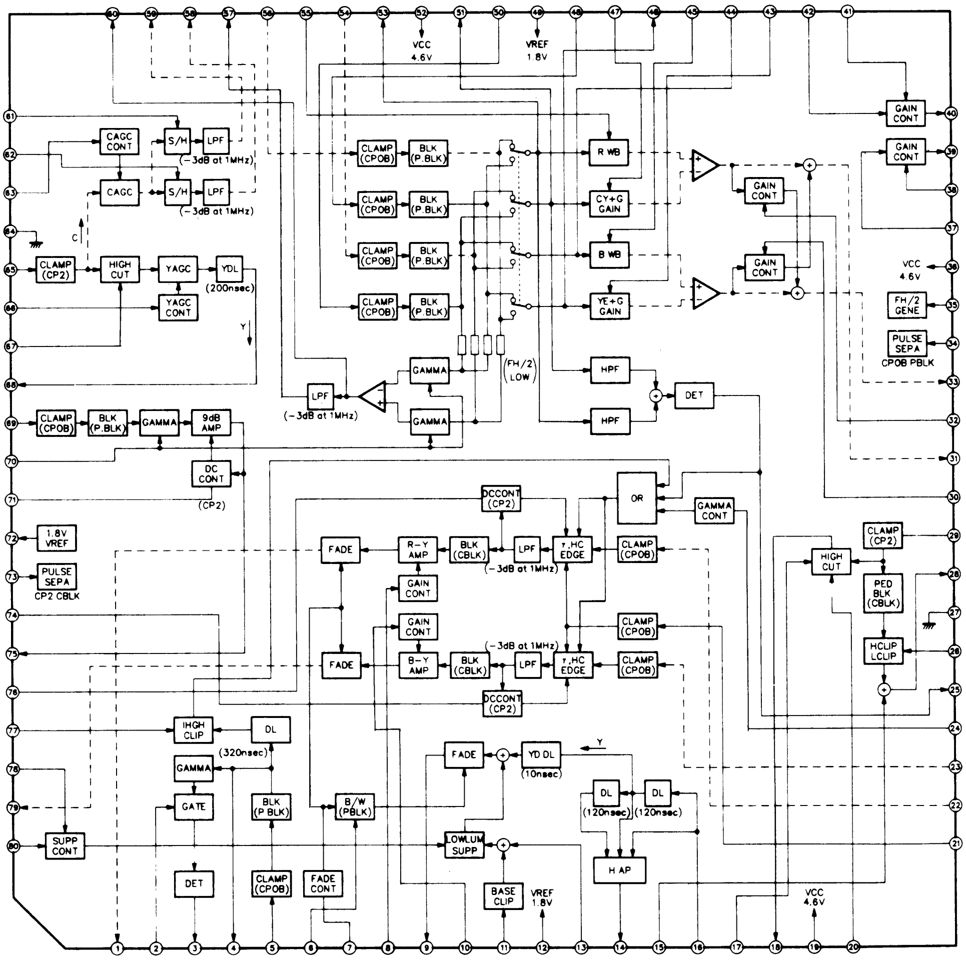
L401	A-5B
L402	A-5B
L501	B-2C
L504	B-3C
L505	B-3C
L509	B-3C
L521	B-3C
L522	B-2D
L523	B-3C
L524	B-3C
L601	A-3C
L602	A-3B
L604	A-4B
L701	B-4D
L702	B-4D
L703	A-4D
L721	B-1C
L722	B-1C
L723	A-2C
L724	A-2C
L725	A-1C
L726	A-1C
L727	A-1D
L728	A-1D
L801	A-5C
L802	B-3B
L803	A-4C
L804	A-4C
L805	B-3A
L806	B-5B
DELAY LINE	
DL501	B-1A
SWITCH	
SW1	A-5D
SW2	A-5C
SW TRANS	
T721	A-1C
LPF	
LPF801	B-5C
LPF802	B-5C
CONNECTOR	
CN1	A-1D
CN2	A-3D
CN3	A-5D
CN4	A-5D
CN5	B-5C
CN6	A-5C
CN7	A-5B
CN8	A-5B
CN9	A-4B
CN10	A-4A
CN11	A-4A
CN12	A-3A
CN13	A-1A
CN14	A-1B
CN15	A-1D
CN16	A-2A
CN17	A-3A
TEST PIN	
TP101	A-2B
TP102	A-1B
TP103	A-1B
TP201	A-1B
TP301	A-5D
TP302	A-4D
TP303	A-4D
TP351	A-4A
TP401	A-4B
TP402	A-4B
TP403	A-5B
TP501	A-5B
TP505	A-1C
TP601	A-2C
TP801	A-5C
TP802	A-5D
TP803	A-3C
TP804	A-3C
TP805	A-5C

■ IC BLOCK DIAGRAM

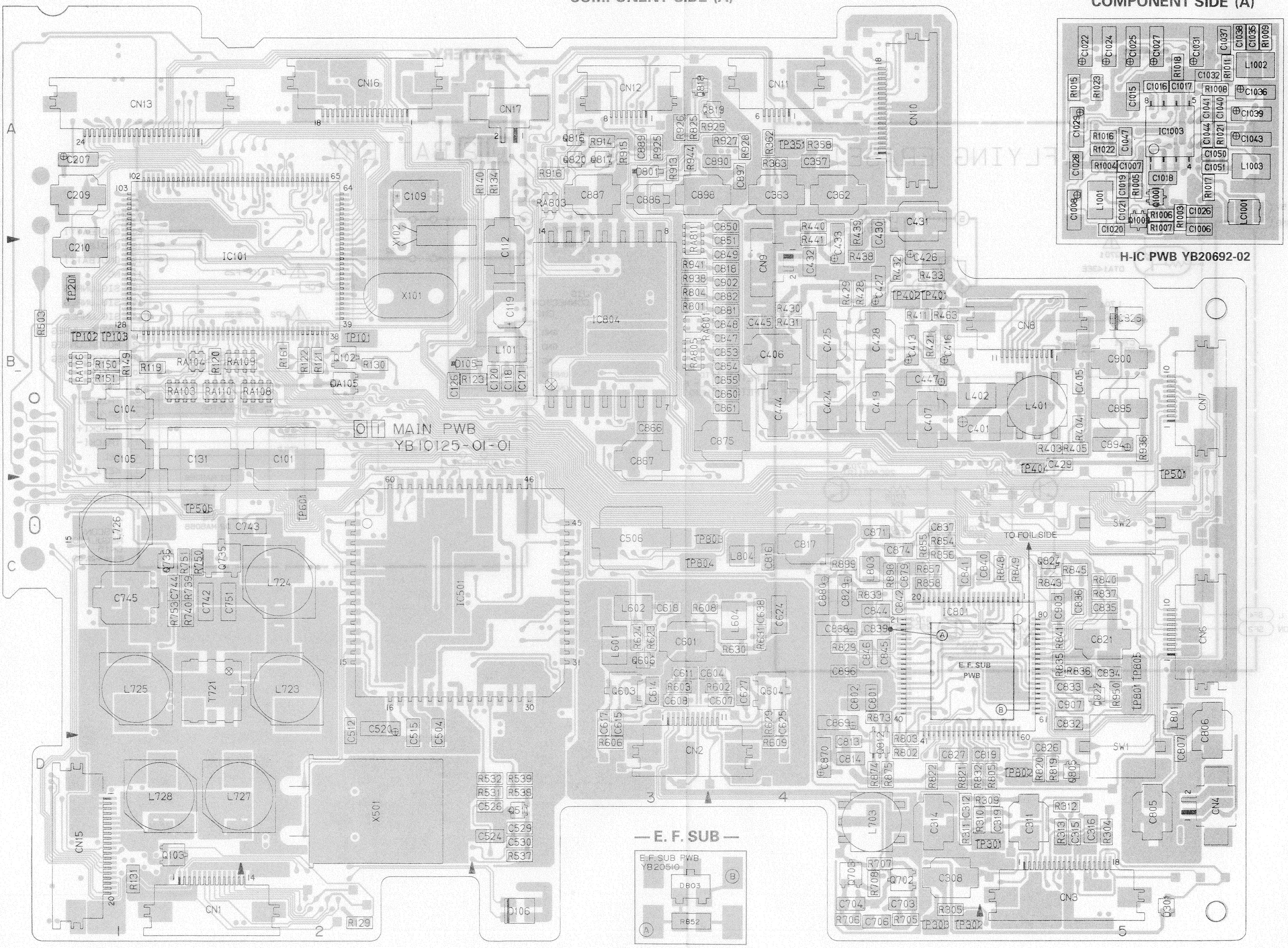
— PROCESS —

IC801 AN2145NFHP



VCC 4.6V
VREF 1.8V
CAGC CONT
CAGC
S/H
LPF
(−3dB at 1MHz)
C
CLAMP (CP2)
HIGH CUT
YAGC
YAGC CONT
YDL
(200nsec)
Y
CLAMP (CPOB)
BLK (P.BLK)
R WB
CY+G GAIN
B WB
YE+G GAIN
GAIN CONT
FH/2 GENE
PULSE SEPA
CP0B PBLK
GAMMA
(FH/2 LOW)
HPF
DET
9dB AMP
DC CONT
(CP2)
DCCONT (CP2)
OR
GAMMA CONT
1.8V VREF
PULSE SEPA
CP2 CBLK
FADE
R−Y AMP
B−Y AMP
BLK (CBLK)
γ,HC EDGE
IHGH CLIP
DL
(320nsec)
GATE
SUPP CONT
CLAMP (CPOB)
FADE CONT
B/W (PBLK)
YD DL
(10nsec)
(120nsec)
LOWLUM SUPP
H AP
BASE CLIP
PED BLK (CBLK)
HCLIP LCLIP

— MAIN —
COMPONENT SIDE (A)



A
B
C
D
CN13
CN16
CN17
CN12
CN11
CN10
CN9
CN8
CN7
CN6
CN4
CN3
CN2
CN1
CN15
IC101
IC804
IC501
IC801
X101
X102
X501
C207
C209
C210
TP201
R503
TP102
TP103
TP101
C109
C112
C119
L101
D105
DA105
Q102
R130
C104
C105
C131
C101
01 MAIN PWB
YB10125-01-01
TP505
TP601
L726
C743
L724
C745
C742
C751
L725
T721
L723
L728
L727
Q103
R131
R129
D106
C512
C520
C515
C504
R532
R539
R531
R538
C526
Q517
C529
C524
C530
R537
C887
C886
C898
C363
C362
C431
TP351
R358
C357
C406
C425
C428
C424
C419
C407
L402
L401
C401
C900
C895
C894
R936
TP404
C429
TP501
C866
C867
C875
C506
TP803
TP804
L804
C816
C817
L602
C618
R608
L604
C601
R630
C624
L601
C603
Q604
C611
C604
R603
R602
C608
C607
C871
C837
R854
R856
C874
TO FOIL SIDE
SW2
E.F. SUB PWB
C821
C834
C633
C907
C832
SW1
C826
L801
C806
C807
C805
TP802
C827
C819
L703
C314
C311
R312
TP301
C308
Q702
C703
C704
C706
R705
TP303
TP302
R305
D301
3
4
5
2
1

— H-IC —
COMPONENT SIDE (A)

C1022
C1024
C1025
C1027
C1031
C1037
C1038
C1035
R1009
L1002
R1018
R1011
C1032
R1015
R1023
C1015
C1016
C1017
R1008
C1036
C1029
IC1003
C1039
R1016
R1022
C1047
C1044
R1021
C1043
C1041
C1040
C1028
R1004
C1007
C1050
C1051
L1003
C1019
R1005
C1018
R1017
C1008
L1001
Q1001
R1003
C1021
D1001
R1006
C1026
C1001
C1020
R1007
C1006

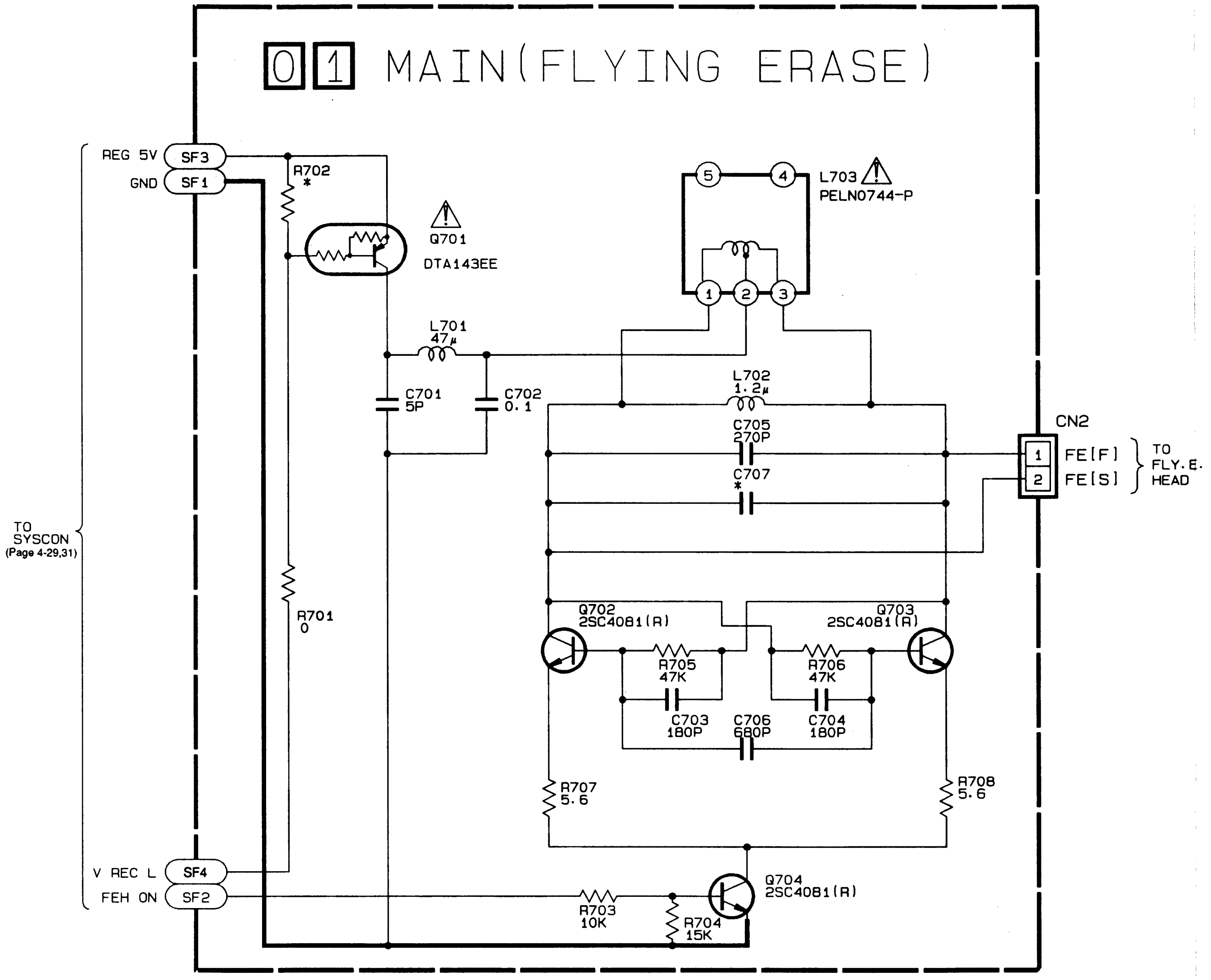
H-IC PWB YB20692-02

— E. F. SUB —

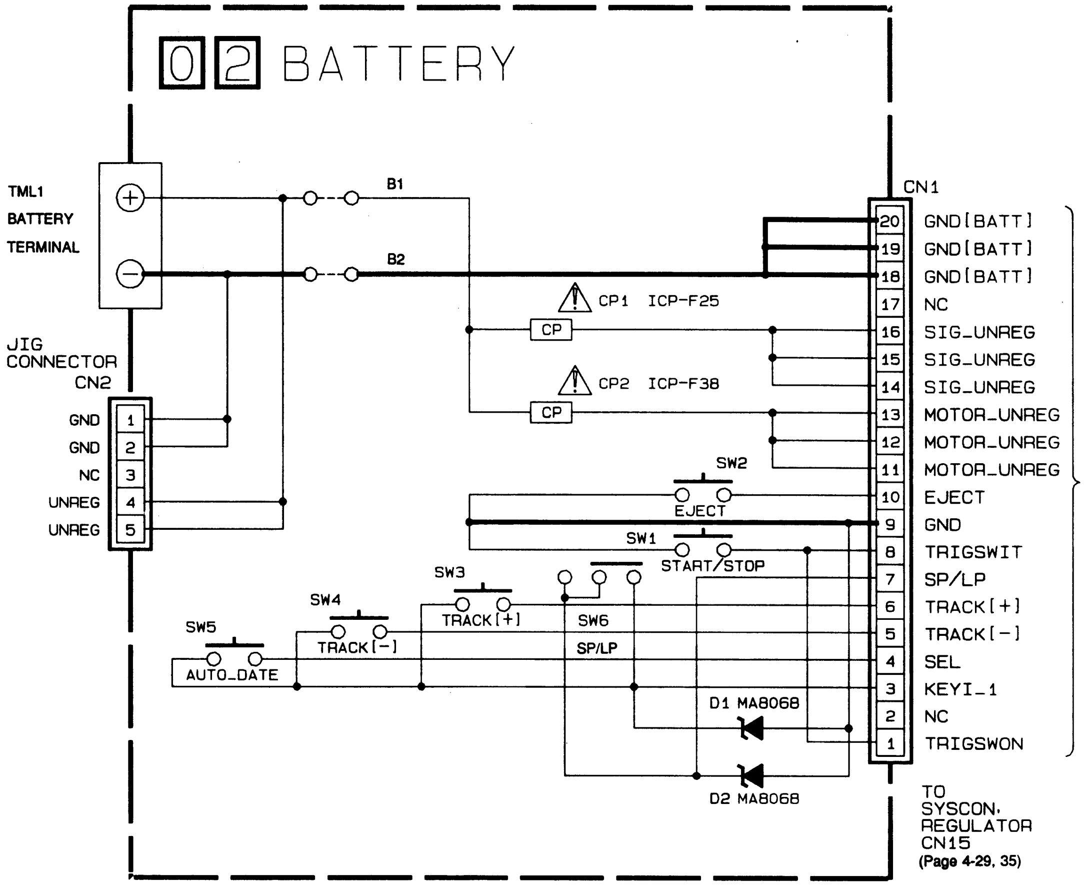
E.F.SUB PWB
YB20510
D803
R852
A
B

4.17 FLYING ERASE AND BATTERY SCHEMATIC DIAGRAMS

— FLYING ERASE —


01 MAIN(FLYING ERASE)
REG 5V
SF3
GND
SF1
TO SYSCON (Page 4-29,31)
V REC L
SF4
FEH ON
SF2
R702 *
Q701 DTA143EE
R701 0
L701 47μ
C701 5P
C702 0.1
L703 PELN0744-P
5
4
1
2
3
L702 1.2μ
C705 270P
C707 *
CN2
1 FE[F]
2 FE[S]
TO FLY.E. HEAD
Q702 2SC4081(R)
Q703 2SC4081(R)
R705 47K
R706 47K
C703 180P
C706 680P
C704 180P
R707 5.6
R708 5.6
Q704 2SC4081(R)
R703 10K
R704 15K

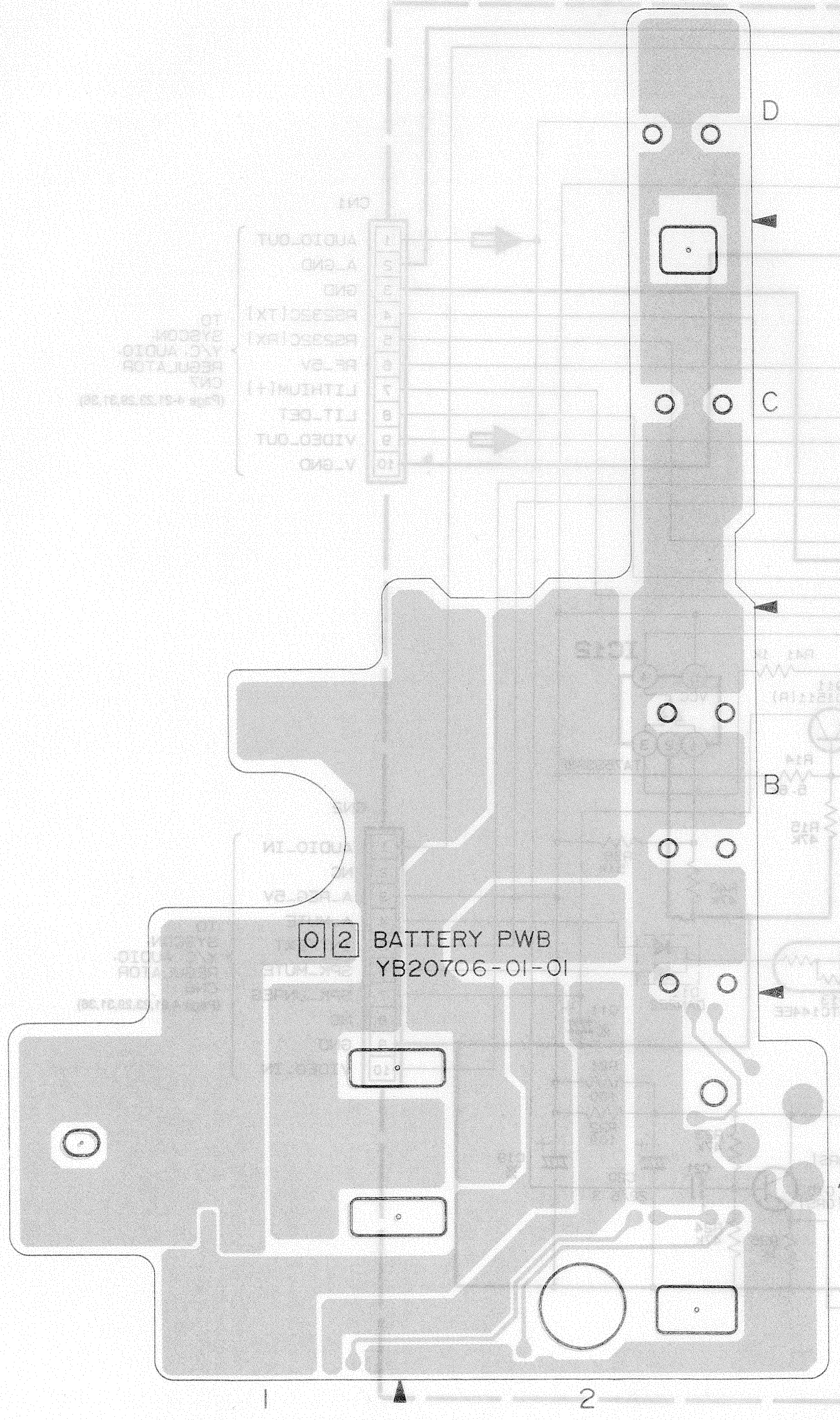
— BATTERY —


02 BATTERY
TML1 BATTERY TERMINAL
+
−
B1
B2
JIG CONNECTOR CN2
GND 1
GND 2
NC 3
UNREG 4
UNREG 5
CP1 ICP-F25
CP2 ICP-F38
CP
SW2 EJECT
SW1 START/STOP
SW3 TRACK[+]
SW4 TRACK[−]
SW5 AUTO_DATE
SW6 SP/LP
D1 MA8068
D2 MA8068
CN1
20 GND[BATT]
19 GND[BATT]
18 GND[BATT]
17 NC
16 SIG_UNREG
15 SIG_UNREG
14 SIG_UNREG
13 MOTOR_UNREG
12 MOTOR_UNREG
11 MOTOR_UNREG
10 EJECT
9 GND
8 TRIGSWIT
7 SP/LP
6 TRACK[+]
5 TRACK[−]
4 SEL
3 KEYI_1
2 NC
1 TRIGSWON
TO SYSCON. REGULATOR CN15 (Page 4-29, 35)

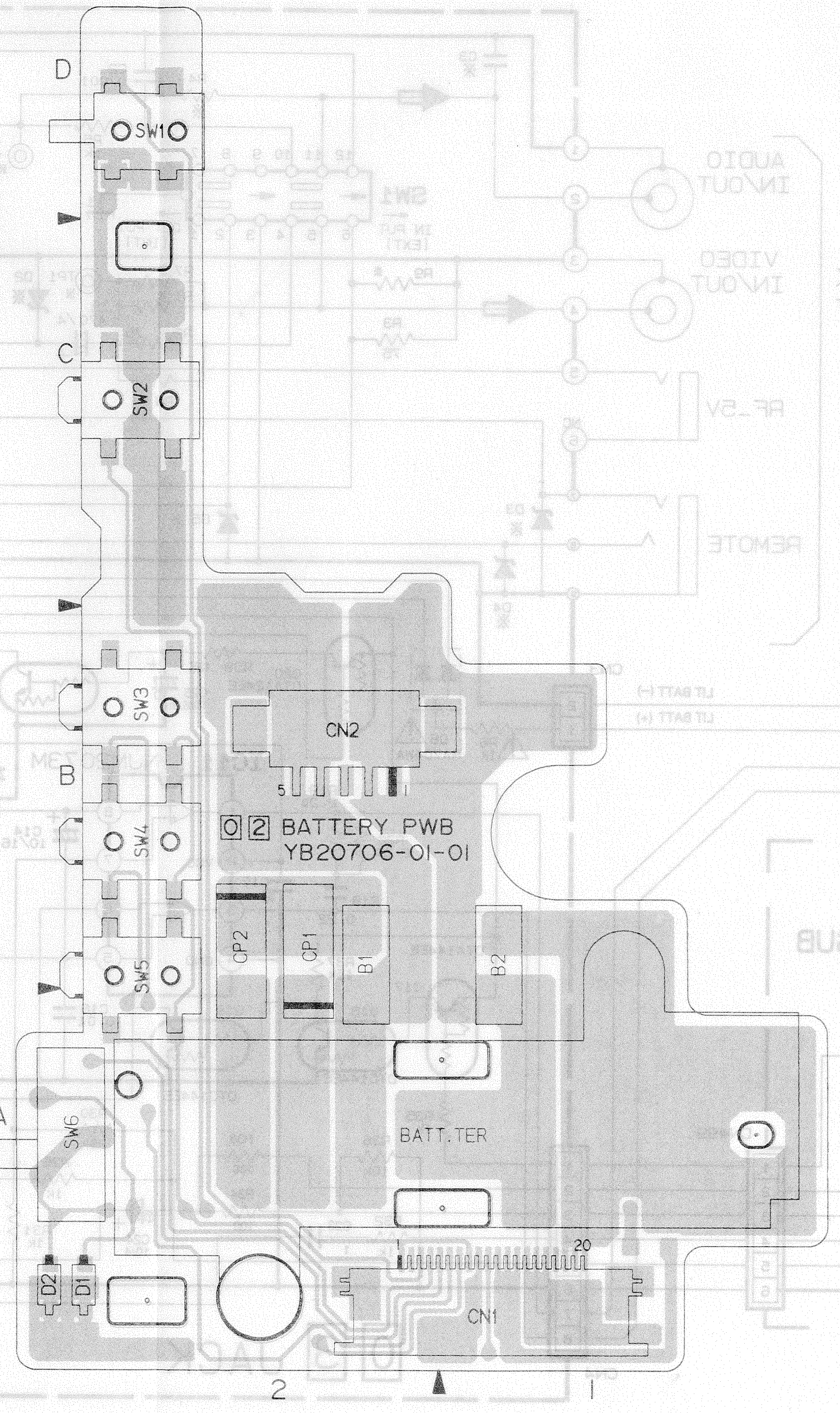
4.18 BATTERY AND UPPER DRUM CIRCUIT BOARDS

— BATTERY —

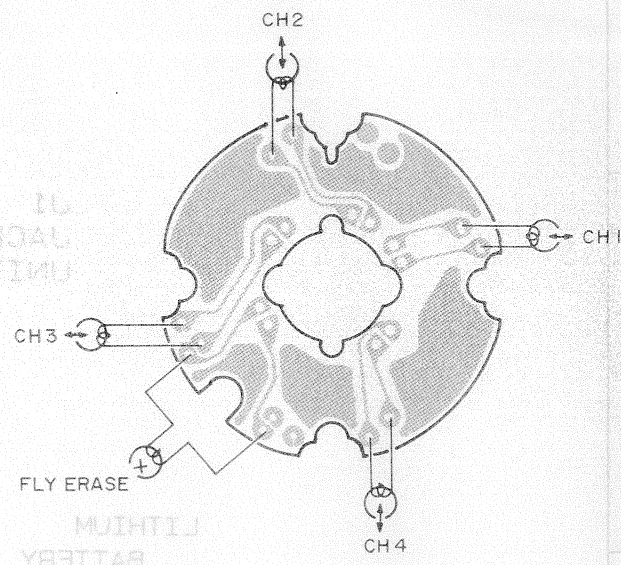
FOIL SIDE (B)


D
C
B
A
02 BATTERY PWB
YB20706-01-01
1
2

COMPONENT SIDE (A)


D
SW1
C
SW2
SW3
CN2
5
1
B
SW4
02 BATTERY PWB
YB20706-01-01
SW5
CP2
CP1
B1
B2
A
SW6
BATT.TER
D2
D1
1
20
CN1
2
1

— UPPER DRUM —


CH2
CH1
CH3
FLY ERASE
CH4

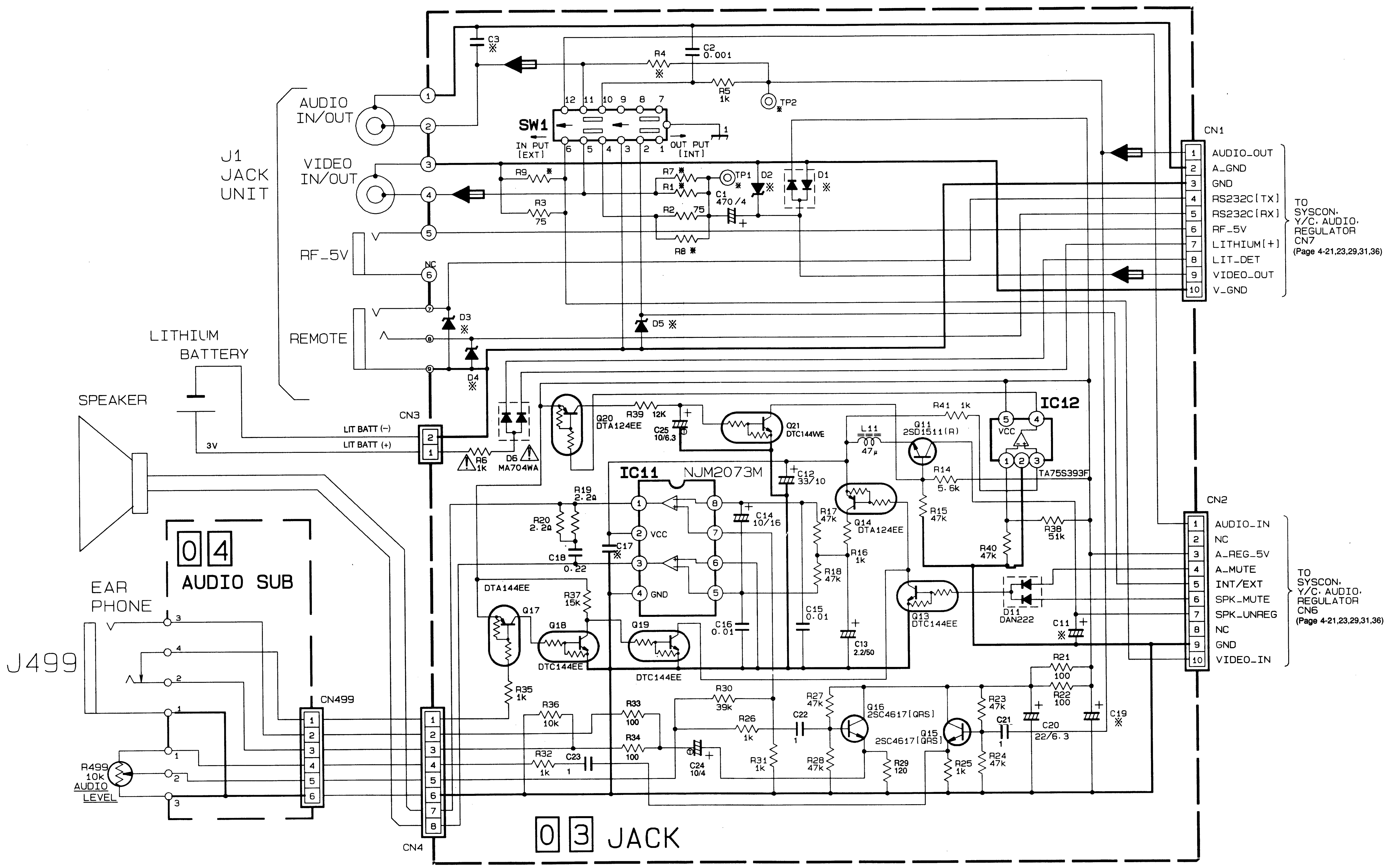
40 UPPER DRUM PWB
YDM3073-4

PARTS LOCATION GUIDE
<BATTERY BOARD>

DIODE		SW3	A-2B
D1	A-2A	SW4	A-2B
D2	A-2A	SW5	A-2B
CONNECTOR		SW6	A-2A
CN1	A-1A	CIRCUIT PROTECTOR	
CN2	A-2B		
SWITCH		CP1	A-2B
SW1	A-2D	CP2	A-2B
SW2	A-2C		

4.19 JACK AND AUDIO SUB SCHEMATIC DIAGRAMS

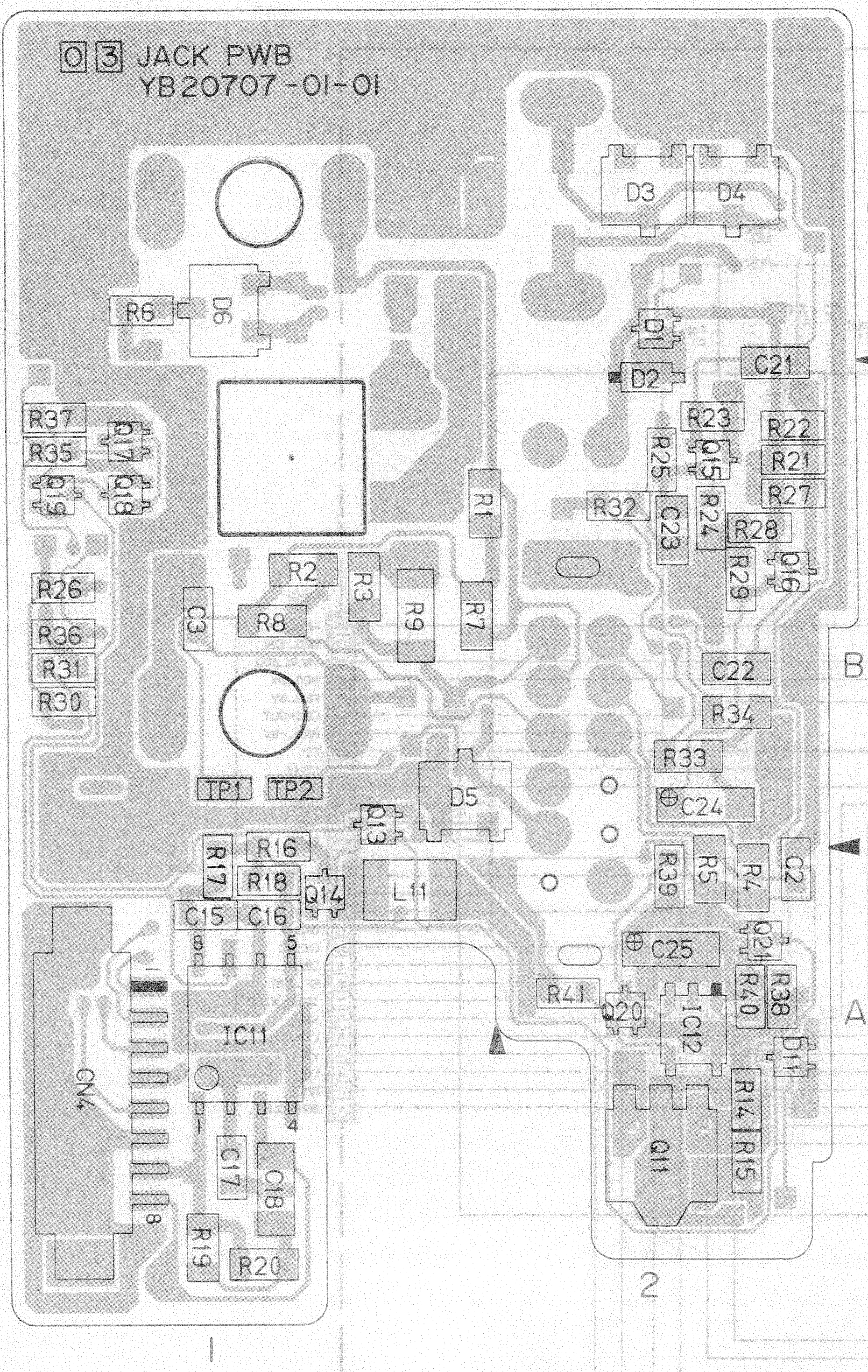
NOTE: Mark (※) is not used.


J1 JACK UNIT
AUDIO IN/OUT
VIDEO IN/OUT
RF_5V
REMOTE
NC
LITHIUM BATTERY
3V
LIT BATT (−)
LIT BATT (+)
CN3
SPEAKER
EAR PHONE
J499
R499 10k AUDIO LEVEL
04 AUDIO SUB
CN499
CN4
03 JACK
SW1
IN PUT [EXT]
OUT PUT [INT]
C3 ※
C2 0.001
R4 ※
R5 1k
TP2 ※
R9 ※
R3 75
R7 ※
R1 ※
R2 75
R8 ※
TP1 ※
C1 470/4
D2 ※
D1 ※
D3 ※
D4 ※
D5 ※
R6 1k
D6 MA704WA
Q20 DTA124EE
R39 12K
C25 10/6.3
Q21 DTC144WE
L11 47µ
Q11 2SD1511(R)
R41 1k
IC12 TA75S393F
VCC
R14 5.6k
R15 47k
IC11 NJM2073M
R19 2.2Ω
R20 2.2Ω
C18 0.22
C17 ※
VCC
GND
C14 10/16
C12 33/10
R17 47k
Q14 DTA124EE
R16 1k
R18 47k
C15 0.01
C16 0.01
C13 2.2/50
Q13 DTC144EE
R40 47k
R38 51k
D11 DAN222
C11 ※
DTA144EE
Q17
R37 15k
Q18 DTC144EE
Q19 DTC144EE
R35 1k
R36 10k
R33 100
R34 100
R32 1k
C23 1
R30 39k
R26 1k
C24 10/4
R31 1k
R27 47k
C22 1
R28 47k
Q16 2SC4617(QRS)
Q15 2SC4617(QRS)
R29 120
R25 1k
R23 47k
R21 100
R22 100
C21 1
R24 47k
C20 22/6.3
C19 ※
CN1
AUDIO_OUT
A_GND
GND
RS232C(TX)
RS232C(RX)
RF_5V
LITHIUM(+)
LIT_DET
VIDEO_OUT
V_GND
TO SYSCON, Y/C, AUDIO, REGULATOR CN7 (Page 4-21,23,29,31,36)
CN2
AUDIO_IN
NC
A_REG_5V
A_MUTE
INT/EXT
SPK_MUTE
SPK_UNREG
NC
GND
VIDEO_IN
TO SYSCON, Y/C, AUDIO, REGULATOR CN6 (Page 4-21,23,29,31,36)

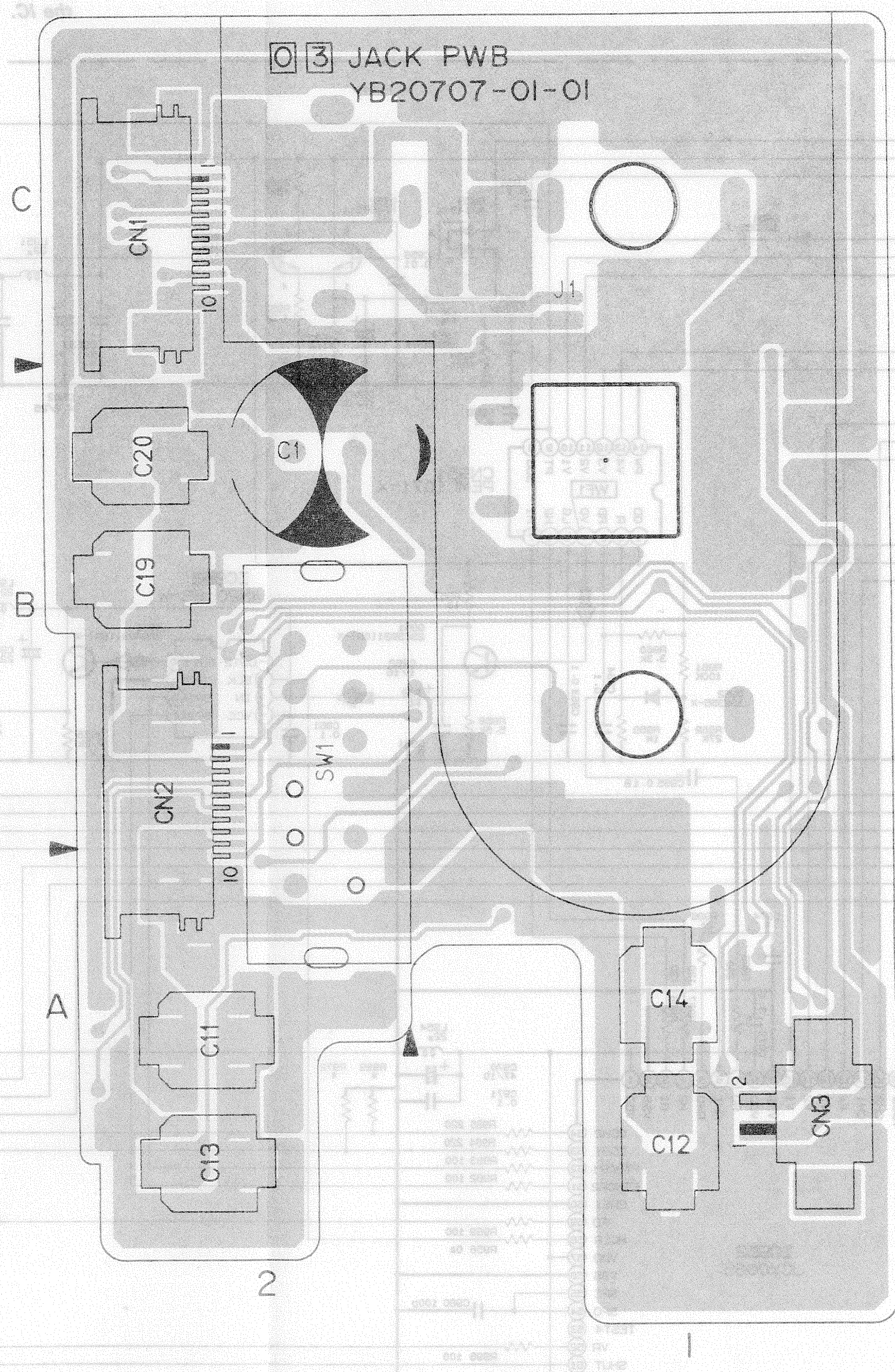
4.20 JACK AND AUDIO SUB CIRCUIT BOARDS

— JACK —

FOIL SIDE (B)

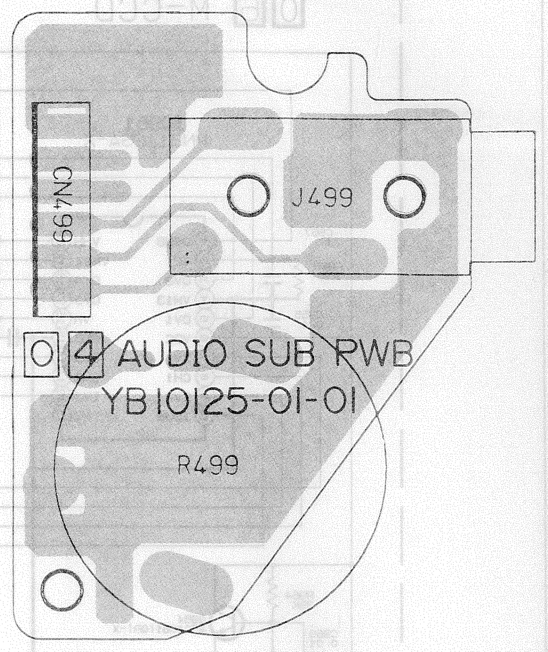

03 JACK PWB
YB20707-01-01
D3
D4
R6
D6
D1
D2
C21
R37
R35
Q17
Q19
Q18
R23
R22
R25
Q15
R21
R27
R1
R32
C23
R24
R28
R29
Q16
R2
R3
R9
R7
R26
C3
R8
R36
R31
R30
C22
R34
R33
C24
TP1
TP2
Q13
D5
R16
R17
R18
Q14
L11
R39
R5
R4
C2
C15
C16
C25
Q21
R40
R38
R41
Q20
IC12
D11
IC11
CN4
R14
R15
Q11
C17
C18
R19
R20
C
B
A
2
1

COMPONENT SIDE (A)

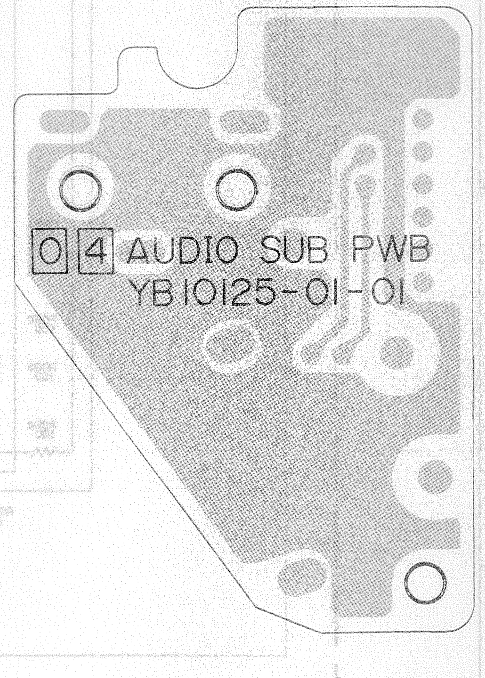

03 JACK PWB
YB20707-01-01
C
CN1
J1
C20
C1
C19
B
CN2
SW1
A
C11
C14
C13
C12
CN3
2
1

— AUDIO SUB —

FOIL SIDE (B)


CN499
J499
04 AUDIO SUB PWB
YB10125-01-01
R499

COMPONENT SIDE (A)


04 AUDIO SUB PWB
YB10125-01-01

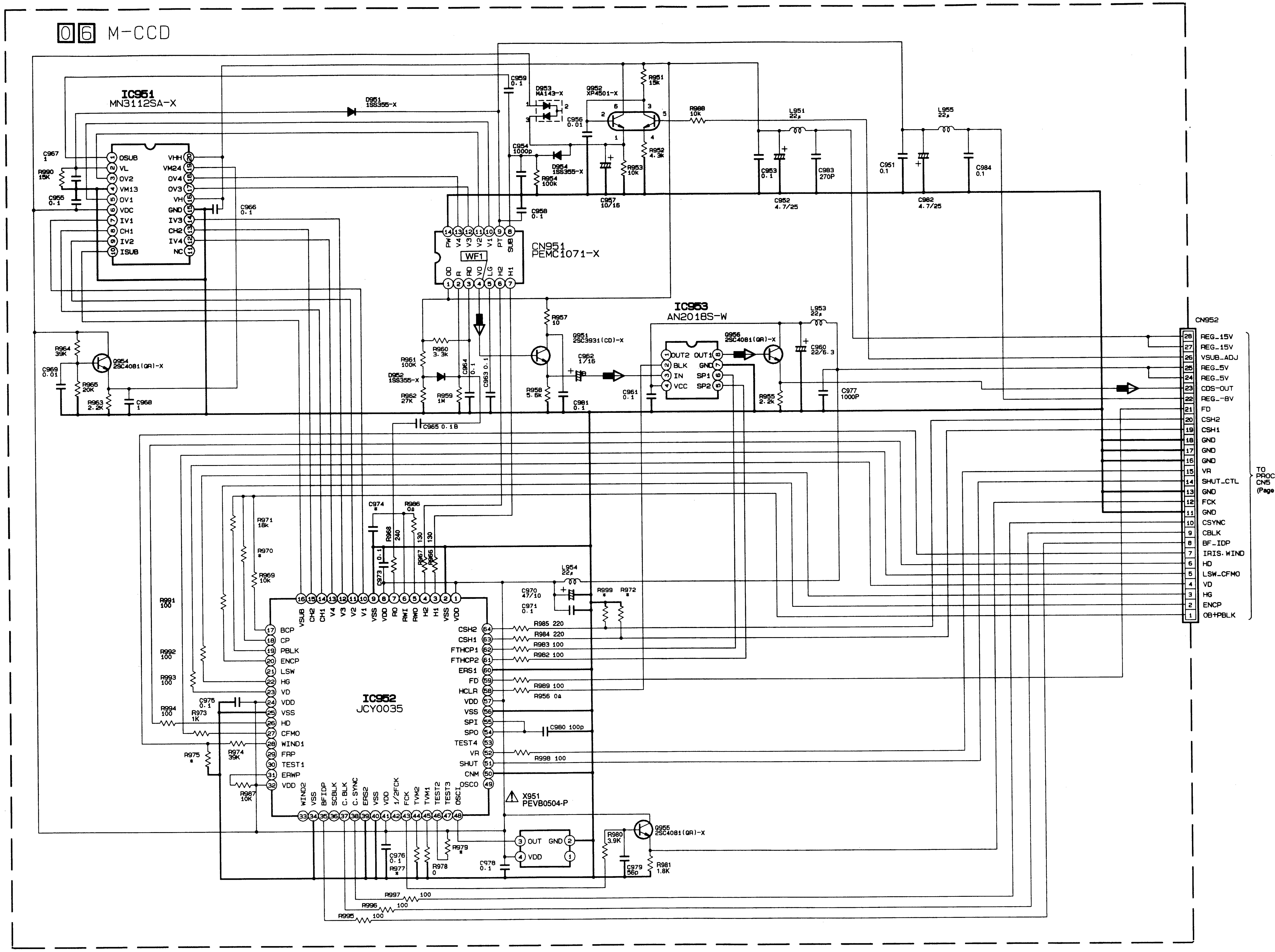
PARTS LOCATION GUIDE〈JACK BOARD〉

I C		Q19	B-1B	RESISTOR		R15	B-2A	R26	B-1B	R37	B-1B	C14	A-1A	C25	B-2A
IC11	B-1A	Q20	B-2A	R1	B-1B	R16	B-1A	R27	B-2B	R38	B-2A	C15	B-1A	COIL	
IC12	B-2A	Q21	B-2A	R2	B-1B	R17	B-1A	R28	B-2B	R39	B-2A	C16	B-1A	L11	B-1A
TRANSISTOR		DIODE		R3	B-1B	R18	B-1A	R29	B-2B	R40	B-2A	C17	B-1A	CONNECTOR	
Q11	B-1A	D1	B-2C	R4	B-2A	R19	B-1A	R30	B-1B	R41	B-2A	C18	B-1A	CN1	A-2C
Q13	B-2A	D2	B-2B	R5	B-2A	R20	B-1A	R31	B-1B	CAPACITOR		C19	A-2B	CN2	A-2B
Q14	B-1A	D3	B-2C	R6	B-1C	R21	B-2B	R32	B-2B	C2	B-2A	C20	A-2B	CN3	A-1A
Q15	B-2B	D4	B-2C	R7	B-1B	R22	B-2B	R33	B-2B	C3	B-1B	C21	B-2C	CN4	B-1A
Q16	B-2B	D5	B-1B	R8	B-1B	R23	B-2B	R34	B-2B	C11	A-2A	C22	B-2B	TEST PIN	
Q17	B-1B	D6	B-1C	R9	B-1B	R24	B-2B	R35	B-1B	C12	A-1A	C23	B-2B	TP1	B-1B
Q18	B-1B	D11	B-2A	R14	B-2A	R25	B-2B	R36	B-1B	C13	A-2A	C24	B-2B	TP2	B-1B

4.21 M-CCD SCHEMATIC DIAGRAM

NOTES: *1. Mark (*) is not used.*

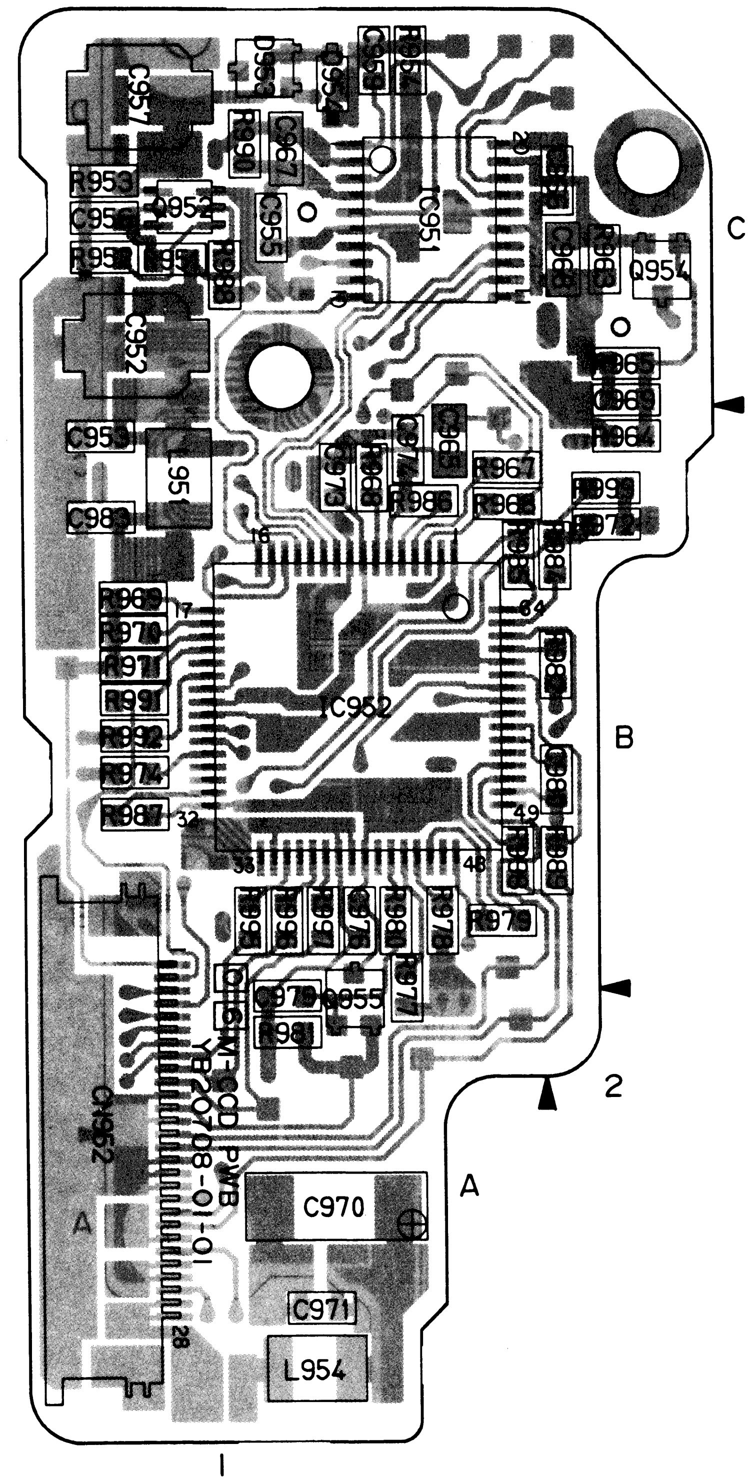
2. A DC-DC converter is included in the IC of this CCD circuit. Use ample care when checking the voltages. Even a brief shorting of the pins can destroy the IC.



06 M-CCD
IC951
MN3112SA-X
OSUB
VL
OV2
VM13
OV1
VDC
IV1
CH1
IV2
ISUB
VHH
VM24
OV4
OV3
VH
GND
IV3
CH2
IV4
NC
C967 1
R990 15K
C955 0.1
C966 0.1
D951 1SS355-X
C959 0.1
D953 MA143-X
Q952 XP4501-X
R951 15K
R988 10K
L951 22µ
L955 22µ
C956 0.01
C954 1000p
D954 1SS355-X
R954 100k
R952 4.3K
R953 10K
C957 10/16
C958 0.1
C953 0.1
C983 270P
C952 4.7/25
C951 0.1
C982 4.7/25
C984 0.1
CN951
PEMC1071-X
WF1
PW V4 V3 V2 V1 PT SUB
OD R RD VO LG H2 H1
R957 10
Q951 2SC3931(CD)-X
C962 1/16
IC953
AN2018S-W
L953 22µ
Q956 2SC4081(QR)-X
C960 22/6.3
OUT2 OUT1
BLK GND
IN SP1
VCC SP2
C961 0.1
R955 2.2K
C977 1000P
R964 39K
Q954 2SC4081(QR)-X
C969 0.01
R965 20K
R963 2.2K
C968 1
R961 100K
R960 3.3K
D952 1SS355-X
R962 27K
R959 1M
C964 0.1
C963 0.1
R958 5.6K
C981 0.1
C965 0.1B
R971 18K
R970 *
R969 10K
C974 *
R986 0Ω
R968 240
R967 130
R966 130
C973 0.1
L954 22µ
C970 47/10
C971 0.1
R999 *
R972 *
IC952
JCY0035
VSUB CH2 CH1 V4 V3 V2 V1 VSS VDD RO RWI RWO H2 H1 VSS VDD
BCP
CP
PBLK
ENCP
LSW
HG
VD
VDD
VSS
HD
CFMO
WIND1
FRP
TEST1
ERWP
VDD
CSH2
CSH1
FTHCP1
FTHCP2
ERS1
FD
HCLR
VDD
VSS
SPI
SPO
TEST4
VR
SHUT
CNM
OSCO
WIND2 VSS BFIDP SCBLK C.SYNC ERS2 VSS VDD 1/2FCK FCK TVM2 TVM1 TEST2 TEST3 OSCI
R985 220
R984 220
R983 100
R982 100
R989 100
R956 0Ω
C980 100p
R998 100
R991 100
R992 100
R993 100
R994 100
C975 0.1
R973 1K
R975 *
R974 39K
R987 10K
X951
PEVB0504-P
OUT GND
VDD
R979 *
C976 0.1
R977 *
R978 0
C978 0.1
R980 3.9K
Q955 2SC4081(QR)-X
C979 56p
R981 1.8K
R997 100
R996 100
R995 100
CN952
REG_15V
REG_15V
VSUB_ADJ
REG_5V
REG_5V
CDS-OUT
REG_-8V
FD
CSH2
CSH1
GND
GND
GND
VR
SHUT_CTL
GND
FCK
GND
CSYNC
CBLK
BF_IDP
IRIS.WIND
HD
LSW_CFMO
VD
HG
ENCP
OB+PBLK
TO PROCESS CN5 (Page 4-32)

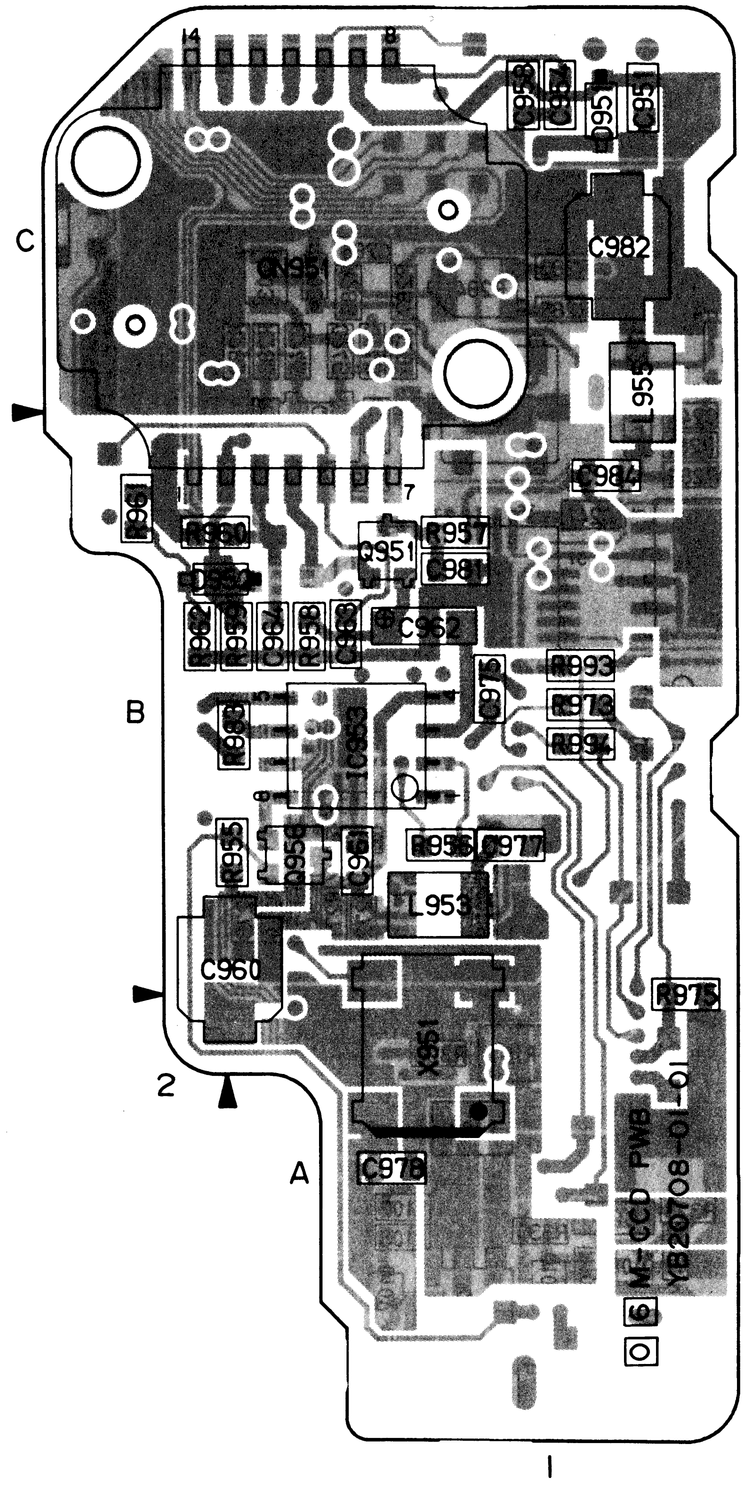
4.22 M-CCD CIRCUIT BOARD

FOIL SIDE (B)



C957
D953
C954
R954
R953
Q952
C955
C952
C953
C983
IC951
Q954
R965
C969
R964
C973
C974
R966
R967
R968
R993
R972
IC952
R970
R971
R991
R992
R974
R987
C979
Q955
R981
R977
R979
C970
C971
L954
CN952
M-CCD PWB YB20708-01-01
C
B
A
2
I

COMPONENT SIDE (A)

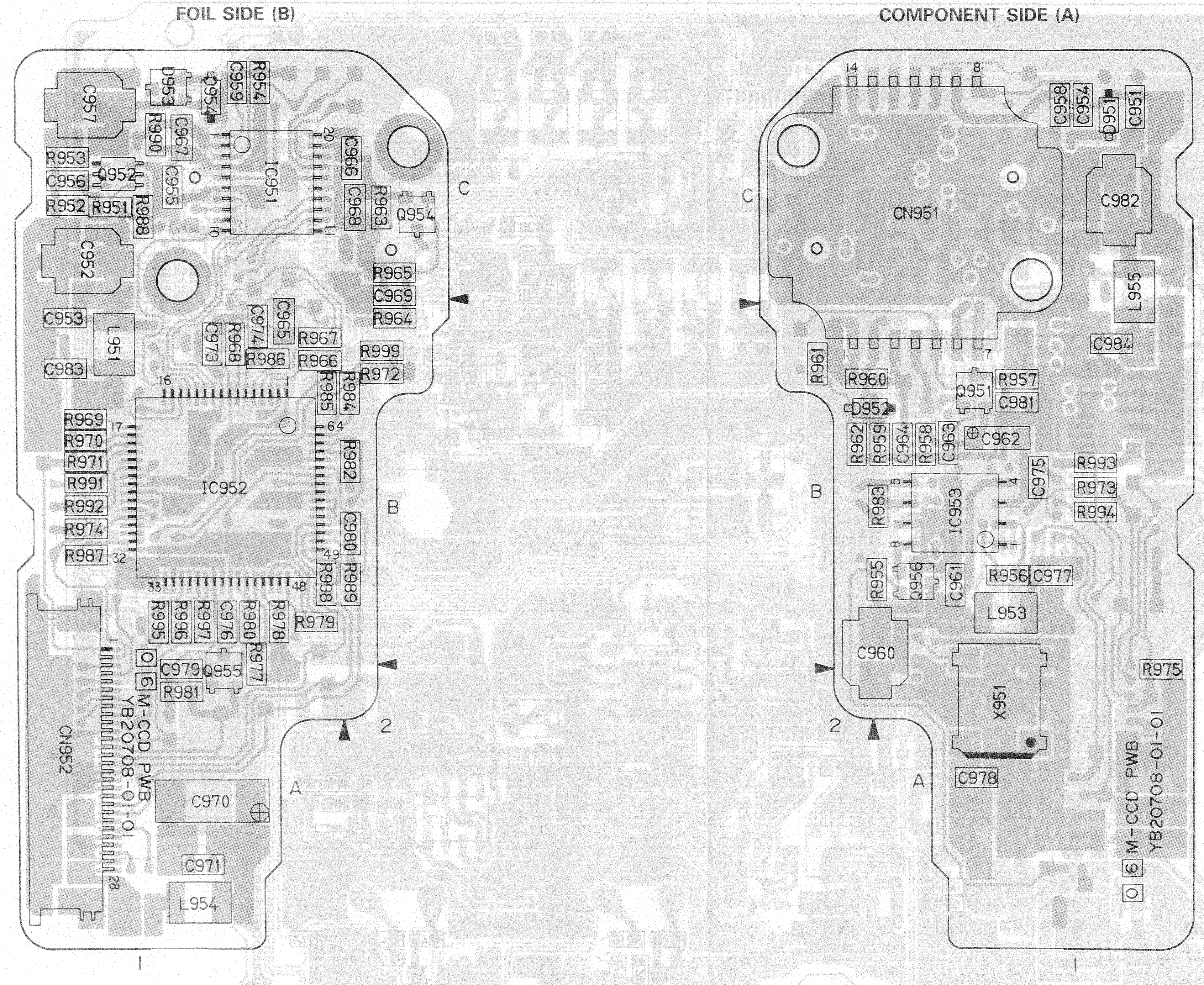


CN951
C982
L955
C984
Q951
R957
C981
C962
R993
R973
R994
C975
IC953
R956
C977
L953
C960
X951
R975
C978
M-CCD PWB YB20708-01-01
C
B
2
A
I

PARTS LOCATION GUIDE
<M-CCD BOARD>

I C	
IC951	B-1C
IC952	B-1B
IC953	A-1B
TRANSISTOR	
Q951	A-1B
Q952	B-1C
Q954	B-2C
Q955	B-1A
Q956	A-1B
DIODE	
D951	A-1C
D952	A-1B
D953	B-1C
D954	B-1C
RESISTOR	
R951	B-1C
R952	B-1C
R953	B-1C
R954	B-1C
R955	A-1B
R956	A-1B
R957	A-1B
R958	A-1B
R959	A-1B
R960	A-2B
R961	A-2B
R962	A-2B
R963	B-2C
R964	B-2B
R965	B-2C
R966	B-1B
R967	B-1B
R968	B-1B
R969	B-1B
R970	B-1B
R971	B-1B
R972	B-2B
R973	A-1B
R974	B-1B
R975	A-1B
R977	B-1A
R978	B-1B
R979	B-1B
R980	B-1B
R981	B-1A
R982	B-2B
R983	A-1B
R984	B-2B
R985	B-1B
R986	B-1B
R987	B-1B
R988	B-1C
R989	B-2B
R990	B-1C
R991	B-1B
R992	B-1B
R993	A-1B
R994	A-1B
R995	B-1B
R996	B-1B
R997	B-1B
R998	B-1B
R999	B-2B
CAPACITOR	
C951	A-1C
C952	B-1C
C953	B-1B
C954	A-1C
C955	B-1C
C956	B-1C
C957	B-1C
C958	A-1C
C959	B-1C
C960	A-1B
C961	A-1B
C962	A-1B
C963	A-1B
C964	A-1B
C965	B-1B
C966	B-2C
C967	B-1C
C968	B-2C
C969	B-2C
C970	B-1A
C971	B-1A
C973	B-1B
C974	B-1B
C975	A-1B
C976	B-1B
C977	A-1B
C978	A-1A
C979	B-1A
C980	B-2B
C981	A-1B
C982	A-1C
C983	B-1B
C984	A-1B
COIL	
L951	B-1B
L953	A-1B
L954	B-1A
L955	A-1C
RESONATOR	
X951	A-1A
CONNECTOR	
CN951	A-1C
CN952	B-1A

4.22 M-CCD CIRCUIT BOARD

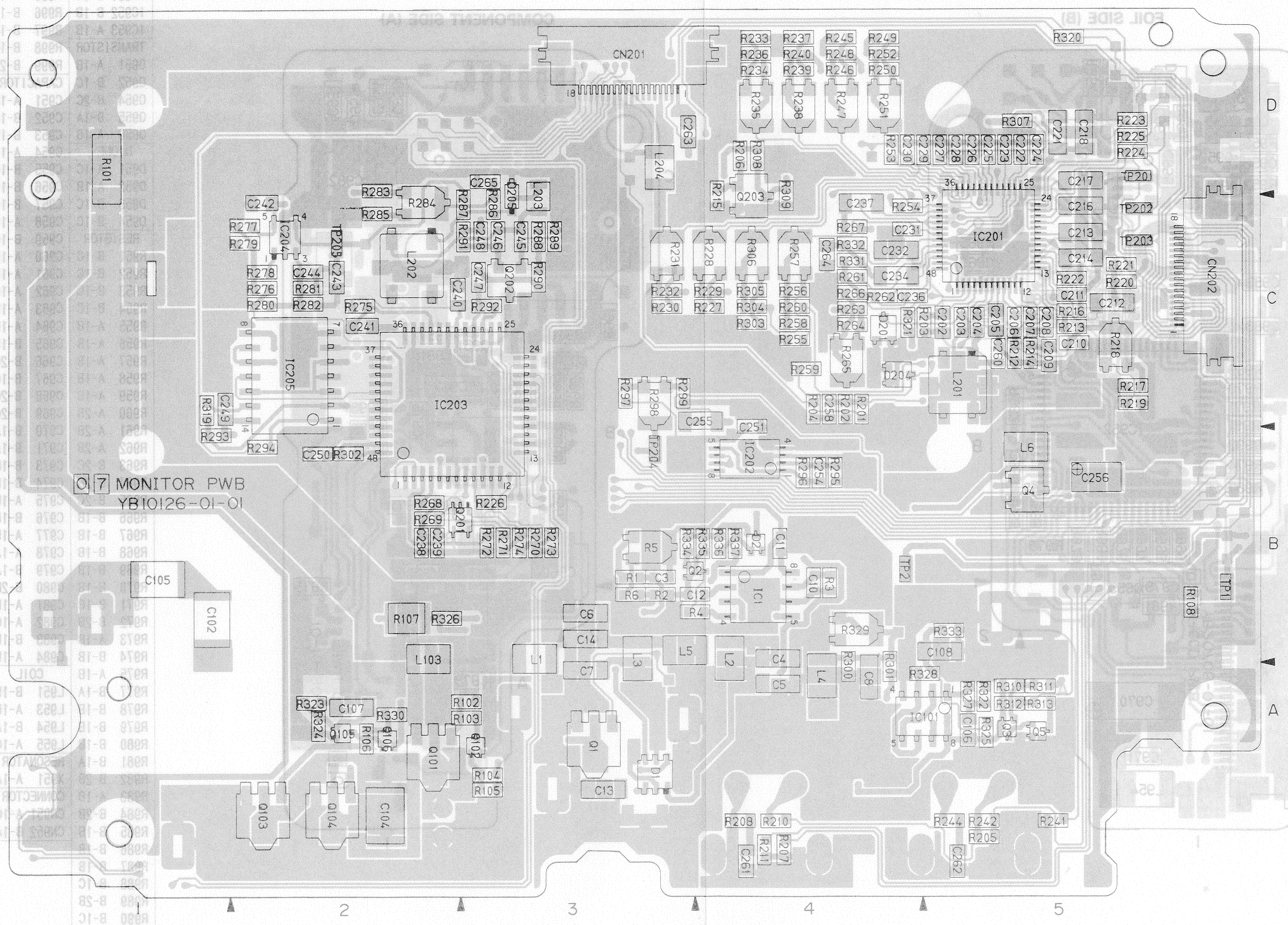

FOIL SIDE (B)
COMPONENT SIDE (A)
C957
D953
D954
C959
R954
R990
C967
R953
C956
Q952
C955
IC951
20
10
11
C966
C968
R963
Q954
R952
R951
R988
C952
R965
C969
R964
C953
L951
C973
C974
R968
C965
R967
R986
R966
R999
R972
C983
R985
R984
16
1
17
64
R969
R970
R971
R991
R992
R974
R987
32
33
48
49
IC952
R982
C980
R998
R989
R995
R996
R997
C976
R980
R978
R979
C979
Q955
R977
R981
0
6
M-CCD PWB
YB20708-01-01
CN952
28
C970
C971
L954
A
B
C
1
2
14
8
7
CN951
C958
C954
D951
C951
C982
L955
C984
R961
R960
Q951
R957
D952
C981
R962
R959
C964
R958
C963
C962
C975
R993
R973
R994
R983
IC953
5
4
8
R955
Q956
C961
R956
C977
L953
C960
X951
R975
C978
M-CCD PWB
YB20708-01-01
0
6
A
B
C
1
2

PARTS LOCATION GUIDE
<M-CCD BOARD>

I C	
IC951	B-1C
IC952	B-1B
IC953	A-1B
TRANSISTOR	
Q951	A-1B
Q952	B-1C
Q954	B-2C
Q955	B-1A
Q956	A-1B
DIODE	
D951	A-1C
D952	A-1B
D953	B-1C
D954	B-1C
RESISTOR	
R951	B-1C
R952	B-1C
R953	B-1C
R954	B-1C
R955	A-1B
R956	A-1B
R957	A-1B
R958	A-1B
R959	A-1B
R960	A-2B
R961	A-2B
R962	A-2B
R963	B-2C
R964	B-2B
R965	B-2C
R966	B-1B
R967	B-1B
R968	B-1B
R969	B-1B
R970	B-1B
R971	B-1B
R972	B-2B
R973	A-1B
R974	B-1B
R975	A-1B
R977	B-1A
R978	B-1B
R979	B-1B
R980	B-1B
R981	B-1A
R982	B-2B
R983	A-1B
R984	B-2B
R985	B-1B
R986	B-1B
R987	B-1B
R988	B-1C
R989	B-2B
R990	B-1C
R991	B-1B
R992	B-1B
R993	A-1B
R994	A-1B
R995	B-1B
R996	B-1B
R997	B-1B
R998	B-1B
R999	B-2B
CAPACITOR	
C951	A-1C
C952	B-1C
C953	B-1B
C954	A-1C
C955	B-1C
C956	B-1C
C957	B-1C
C958	A-1C
C959	B-1C
C960	A-1B
C961	A-1B
C962	A-1B
C963	A-1B
C964	A-1B
C965	B-1B
C966	B-2C
C967	B-1C
C968	B-2C
C969	B-2C
C970	B-1A
C971	B-1A
C973	B-1B
C974	B-1B
C975	A-1B
C976	B-1B
C977	A-1B
C978	A-1A
C979	B-1A
C980	B-2B
C981	A-1B
C982	A-1C
C983	B-1B
C984	A-1B
COIL	
L951	B-1B
L953	A-1B
L954	B-1A
L955	A-1C
RESONATOR	
X951	A-1A
CONNECTOR	
CN951	A-1C
CN952	B-1A

4.23 MONITOR CIRCUIT BOARD

FOIL SIDE (B)


CN201
CN202
IC1
IC101
IC201
IC202
IC203
IC204
IC205
Q1
Q4
Q101
Q103
Q104
Q202
Q203
L1
L2
L3
L4
L5
L6
L103
L201
L202
L203
L204
TP1
TP2
TP20
TP202
TP203
TP204
TP205
0 7 MONITOR PWB
YB10126-01-01
A
B
C
D
1
2
3
4
5

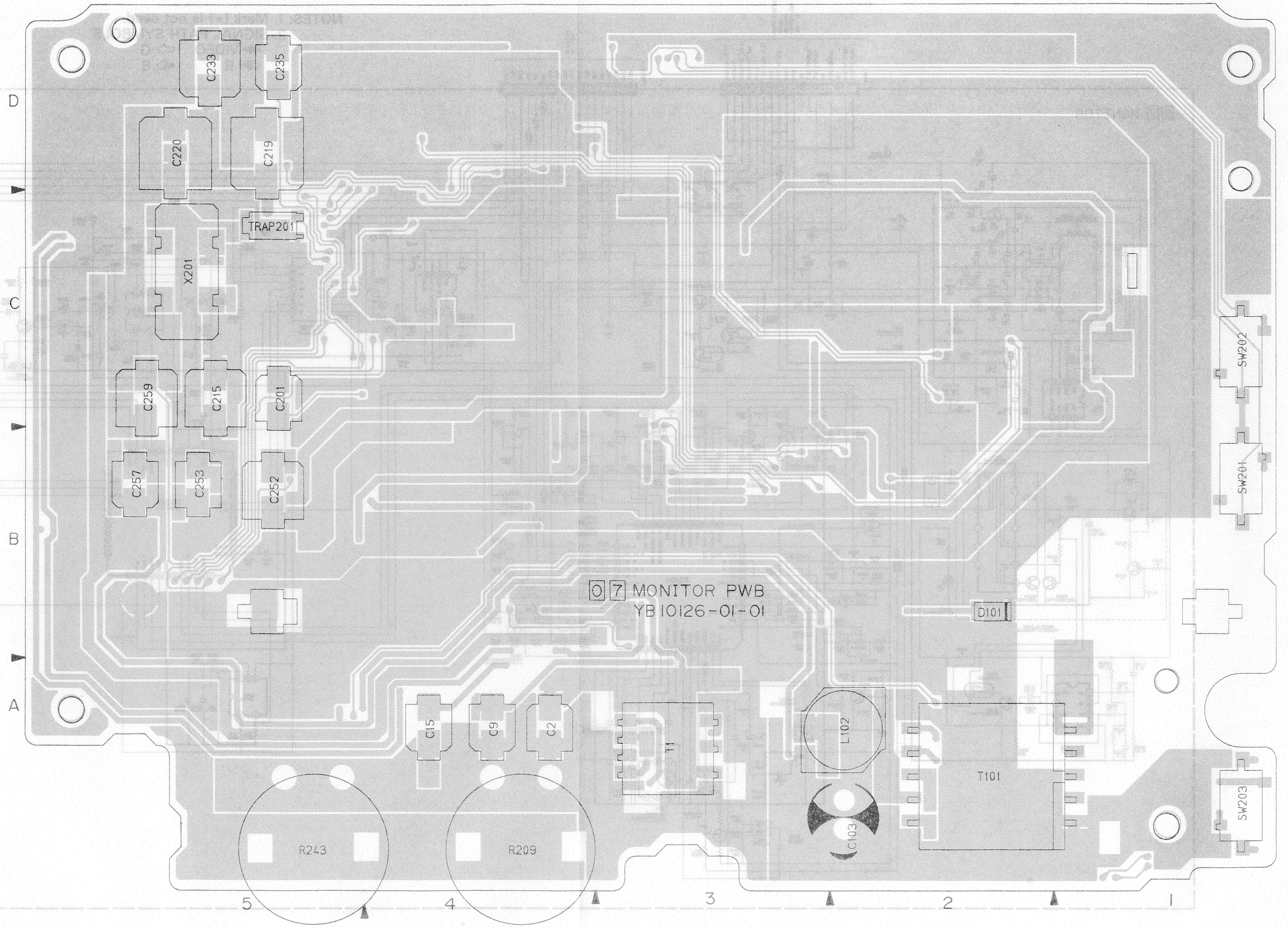
PARTS LOCATION GUIDE
<MONITOR BOARD>

I C	
IC1	B-4B
IC101	B-4A
IC201	B-5C
IC202	B-4B
IC203	B-2C
IC204	B-2C
IC205	B-2C
TRANSISTOR	
Q1	B-3A
Q2	B-3B
Q3	B-5A
Q4	B-5B
Q5	B-5A
Q101	B-2A
Q102	B-3A
Q103	B-2A
Q104	B-2A
Q105	B-2A
Q106	B-2A
Q201	B-2B
Q202	B-3C
Q203	B-4C
DIODE	
D1	B-3A
D2	B-4B
D101	A-2B
D201	B-4C
D204	B-4C
D205	B-3C
RESISTOR	
R1	B-3B
R2	B-3B
R3	B-4B
R4	B-4B
R6	B-3B
R101	B-1D
R102	B-3A
R103	B-3A
R104	B-3A
R105	B-3A
R106	B-2A
R107	B-2B
R108	B-5B
R201	B-4C
R202	B-4C
R203	B-4C
R204	B-4C
R205	B-5A
R206	B-4D
R207	B-4A
R208	B-4A
R210	B-4A
R211	B-4A
R212	B-5C
R213	B-5C
R214	B-5C
R215	B-4D
R216	B-5C
R217	B-5C
R219	B-5C
R220	B-5C
R221	B-5C
R222	B-5C
R223	B-5D
R224	B-5D
R225	B-5D
R226	B-3B
R227	B-4C
R229	B-4C
R230	B-3C
R232	B-3C
R233	B-4D
R234	B-4D
R236	B-4D
R237	B-4D
R239	B-4D
R240	B-4D
R241	B-5A
R242	B-5A
R244	B-5A
R245	B-4D
R246	B-4D
R248	B-4D
R249	B-4D
R250	B-4D
R252	B-4D
R253	B-4D
R254	B-4C
R255	B-4C
R256	B-4C
R258	B-4C
R259	B-4C
R260	B-4C
R261	B-4C
R262	B-4C
R263	B-4C
R264	B-4C
R266	B-4C
R267	B-4C
R268	B-2B
R269	B-2B
R270	B-3B
R271	B-3B
R272	B-3B
R273	B-3B
R274	B-3B
R275	B-2C
R276	B-2C
R277	B-2C
R278	B-2C
R279	B-2C
R280	B-2C
R281	B-2C
R282	B-2C
R283	B-2D
R285	B-2C
R286	B-3C
R287	B-3C
R288	B-3C
R289	B-3C
R290	B-3C
R291	B-3C
R292	B-3C
R293	B-1B
R294	B-2B
R295	B-4B
R296	B-4B
R297	B-3C
R299	B-3C
R300	B-4A
R301	B-4A
R302	B-2B
R303	B-4C
R304	B-4C
R305	B-4C
R307	B-5D
R308	B-4D
R309	B-4D
R310	B-5A
R311	B-5A
R312	B-5A
R313	B-5A
R319	B-1C
R320	B-5D
R321	B-4C
R322	B-5A
R323	B-2A
R324	B-2A
R325	B-5A
R326	B-2B
R327	B-5A
R328	B-5A
R330	B-2A
R331	B-4C
R332	B-4C
R333	B-5B
R334	B-3B
R335	B-4B
R336	B-4B
R337	B-4B
CAPACITOR	
C2	A-4A
C3	B-3B
C4	B-4B
C5	B-4A
C6	B-3B
C7	B-3A
C8	B-4A
C9	A-4A

C10	B-4B
C11	B-4B
C12	B-4B
C13	B-3A
C14	B-3B
C15	A-4A
C102	B-1B
C104	B-2A
C105	B-1B
C106	B-5A
C107	B-2A
C108	B-5B
C201	A-5C
C202	B-5C
C203	B-5C
C204	B-5C
C205	B-5C
C206	B-5C
C207	B-5C
C208	B-5C
C209	B-5C
C210	B-5C
C211	B-5C
C212	B-5C
C213	B-5C
C214	B-5C
C215	A-5C
C216	B-5C
C217	B-5D
C218	B-5D
C219	A-5D
C220	A-5D
C221	B-5D
C222	B-5D
C223	B-5D
C224	B-5D
C225	B-5D
C226	B-5D
C227	B-5D
C228	B-5D
C229	B-4D
C230	B-4D
C231	B-4C
C232	B-4C
C233	A-5D
C234	B-4C
C235	A-5D
C236	B-4C
C237	B-4C
C238	B-2B
C239	B-2B
C240	B-2C
C241	B-2C
C242	B-2C
C243	B-2C
C244	B-2C
C245	B-3C
C246	B-3C
C247	B-3C
C248	B-3C
C249	B-1C
R250	B-2B
C251	B-4C
C252	A-5B
C253	A-5B
C254	B-4B
C255	B-4C
C256	B-5B
C257	A-5B
C258	B-4C
C259	A-5C
C260	B-5C
C261	B-4A
C262	B-5A
C263	B-3D
C264	B-4C
C265	B-3D
COIL	
L1	A-3B
L2	A-4B
L3	A-3B
L4	A-4B
L5	A-3B
L6	A-5B
L102	A-2A

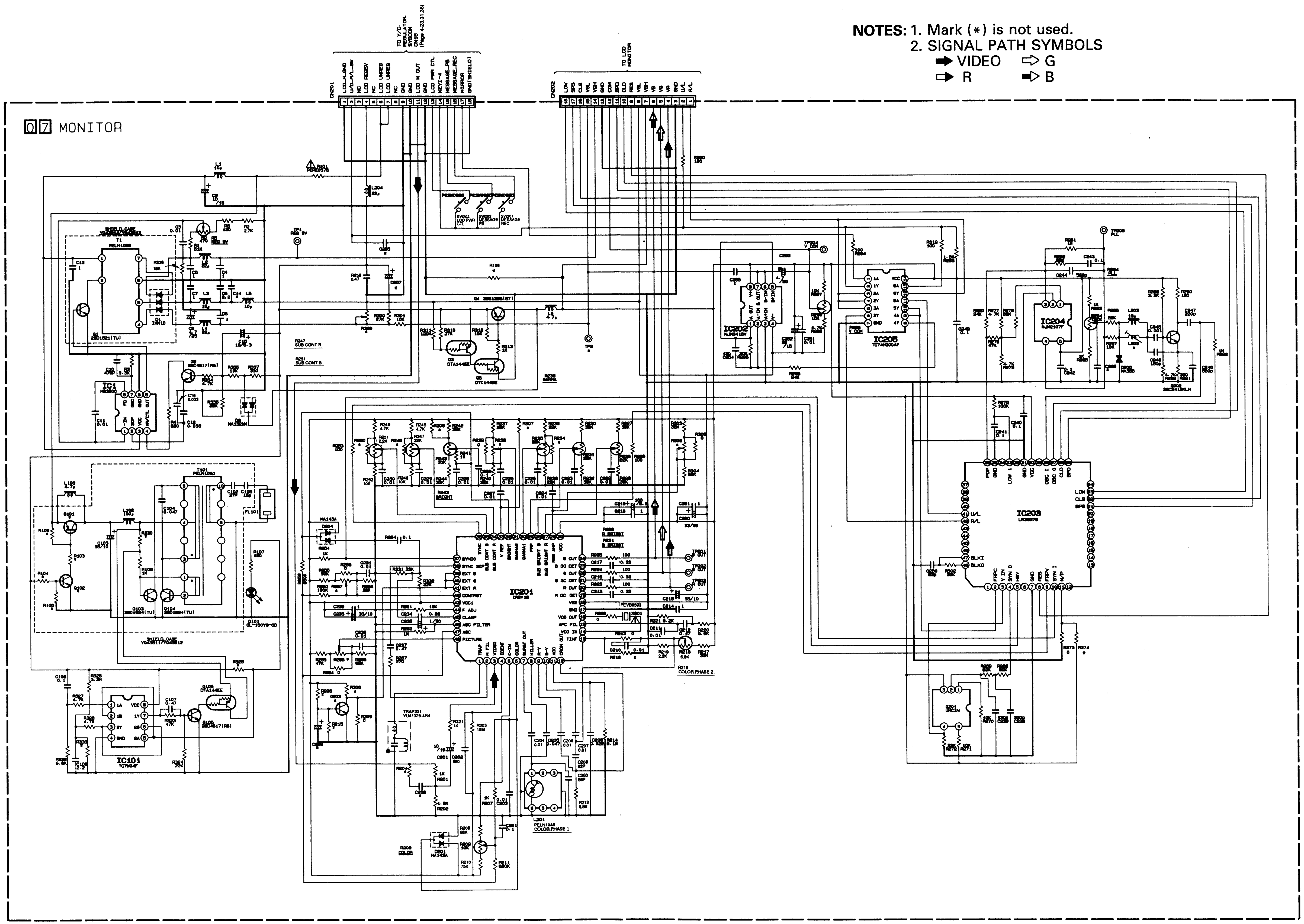
L103	B-2B
L201	A-5C
L202	A-2C
L203	A-3C
L204	A-3D
SWITCH	
SW201	A-1B
SW202	A-1C
SW203	A-1A
SW TRANS	
T1	A-3A
T101	A-2A
RESONATOR	
X201	A-5C
TRAP	
TRAP201	A-5C
CONNECTOR	
CN201	B-3D
CN202	B-5C
TEST PIN	
TP1	B-5B
TP2	B-4B
TP201	B-5D
TP202	B-5C
TP203	B-5C
TP204	B-3B
TP205	B-2C
ADJUSTMENT	
R5	B-3B
R209	A-4A
R218	B-5C
R228	B-4C
R231	B-3C
R235	B-4D
R238	B-4D
R243	A-5A
R247	B-4D
R251	B-4D
R257	B-4C
R265	B-4C
R284	B-2C
R298	B-3C
R306	B-4C
R329	B-4B

COMPONENT SIDE (A)


D
C
B
A
5
4
3
2
1
C233
C235
C220
C219
TRAP201
X201
C259
C215
C201
C257
C253
C252
SW202
SW201
SW203
07 MONITOR PWB
YB10126-01-01
D101
C15
C9
C2
T1
L102
T101
C103
R243
R209

4.24 MONITOR SCHEMATIC DIAGRAM

NOTES: 1. Mark (∗) is not used.
2. SIGNAL PATH SYMBOLS
➡ VIDEO ⇨ G
⇨ R ➡ B



07 MONITOR
TO Y/C, REGULATOR, SYSCON CN16 (Page 4-23,31,36)
CN201
LCD_M_GND
U/D_R/L_SW
NC
LCD REG5V
NC
LCD UNREG
LCD UNREG
NC
GND
GND
LCD M OUT
GND
LCD PWR CTL
KEYI-4
MESSAGE_PB
MESSAGE_REC
MIRROR
GND(SHIELD)
TO LCD MONITOR
CN202
LOW
SPS
CLS
VBL
VGH
GND
COM
SPD
CLD
RES
VBL
VSH
VB
VG
VR
GND
U/L
R/L
R101 PERE0576
R320 100
IC1
IC101 TC7W04F
IC201 IR9F15
IC202
IC203 LR36275
IC204
IC205 TC74HC00AF
T1
T101
L301 PELN1048 COLOR PHASE 1
TRAP201
R209 COLOR
R218 COLOR PHASE 2
R247 SUB CONT R
R251 SUB CONT B
SHIELD CASE

4.25 VOLTAGE CHARTS

〈SYSCON〉

MODE /PIN	REC	PLAY
IC101		
1	4.9	5.0
2	1.7	1.8
3	2.2	2.2
4	5.0	5.0
5	5.3	5.4
6	0	0
7	-	-
8	0	0
9	0.7	0.7
10	3.0	3.1
11	2.1	0.5
12	5.3	4.9
13	0	0
14	5.3	5.3
15	5.3	5.3
16	5.3	5.3
17	5.3	5.3
18	0	0
19	5.2	5.2
20	5.0	5.2
21	0	0
22	4.9	0
23	4.9	0
24	0	0
25	3.1	3.1
26	0	0
27	0.6	0.6
28	2.8	2.4
29	2.6	2.6
30	0	4.9
31	0	4.9
32	4.9	0
33	0.6	0.6
34	5.2	5.2
35	5.2	5.3
36	2.7	0.6
37	5.2	5.3
38	5.0	5.0
39	5.2	0
40	5.3	5.3
41	0	5.3
42	5.3	5.3
43	5.3	5.2
44	0.8	0.8
45	5.3	5.3
46	0	0
47	0	0
48	0	0
49	4.9	4.9
50	-	-
51	-	-
52	0	0
53	0	0
54	1.1	1.1
55	1.2	1.2
56	4.9	0
57	4.9	0
58	4.9	0
59	0	0
60	0	0
61	0	0
62	0	0
63	0	0
64	4.9	4.8
65	4.9	4.9
66	0	4.8
67	0	4.9
68	0	0
69	0	0
70	4.6	0
71	4.7	4.7
72	0	0
73	0	0
74	0	0.7
75	3.3	0
76	4.8	0
77	0	0
78	4.7	4.6
79	5.3	5.2
80	4.8	4.8
81	0	0
82	0	0
83	5.2	5.2
84	0.7	4.8
85	0	0
86	0	0.5
87	5.0	5.0
88	5.0	5.0
89	2.7	2.7
90	2.5	2.5
91	2.9	2.8
92	2.7	0
93	2.7	2.7
94	2.7	2.7
95	0	0
96	2.3	0
97	2.8	0
98	0	0
99	2.8	2.7
100	2.7	0
101	0.7	0
102	0	0
103	5.0	5.0
104	0	0
105	5.0	5.0
106	0	0
107	4.9	4.8
108	4.8	0
109	4.8	4.8
110	2.0	0
111	0.7	0.7
112	0	0
113	2.6	2.6
114	0	4.1
115	4.0	4.0
116	0	0
117	4.9	4.8
118	0	5.1
119	2.1	0
120	3.7	0
121	0	0
122	2.1	0
123	0.6	0
124	0	0
125	4.9	4.8
126	0	0
127	0	0
128	0	0
IC102		
1	0.6	0
2	0	0
3	3.1	3.1
4	0	0
5	5.0	5.0
IC103		
1	0.6	0
2	2.3	0.8
3	3.0	0.8
4	2.4	0.6
5	3.8	0.7
6	3.9	0.8
7	0	0
8	0	0
9	0.7	0
10	3.0	0.8
11	1.9	0.8
12	3.3	0
13	2.1	0.5
14	2.0	0.5
15	2.2	0.8
16	5.0	1.0
IC104		
1	0	0
2	5.4	5.4
3	0	0
4	5.4	5.4
5	5.4	5.4
6	0	0
7	0	0
8	5.4	5.4
9	0	0
10	-	-
11	-	-
12	-	-
13	-	-
14	5.4	5.4
IC105		
1	2.6	2.6
2	2.6	2.7
3	4.8	5.0
4	5.0	5.1
5	0	0.5
6	0	5.3
7	0	0
8	0	5.3
9	0	0
10	0	0
11	0	0
12	5.3	0
13	0	5.3
14	0	0
15	0	0
16	0	0
17	0	0
18	0.8	0
19	0.5	0
20	5.0	5.0
IC106		
1	1.0	0
2	5.0	5.0
3	0	0
4	1.1	0
5	3.2	0
6	1.5	0.9
7	0	0
8	1.2	0
IC107		
1	1.2	0.8
2	6.8	6.8
3	5.0	5.0
4	0	0
5	0	0
6	3.3	3.2
7	1.3	0.7
8	0	0
IC108		
1	0.5	0.6
2	6.8	6.8
3	5.0	5.0
4	0	0
5	0	0
6	4.4	4.4
7	1.0	0.7
8	0	0
IC109		
1	5.4	5.3
2	5.4	5.4
3	0.8	0.8
4	1.4	0
5	5.4	5.4
6	0	0
7	0.5	0
8	5.4	5.4
IC110		
1	6.7	6.7
2	6.8	6.8
3	0	0
IC111		
1	5.0	5.0
2	5.0	5.0
3	0	0
IC112		
1	0	0
2	6.8	6.8
3	5.4	5.4
Q101		
E	5.4	5.4
C	0.7	0
B	5.4	5.4
Q102		
E	0	0
C	6.3	6.3
B	0.7	0.6
Q103		
E	6.8	6.8
C	0.5	0.5
B	6.7	6.8
Q104		
E	0	0
C	0	0.9
B	5.0	0
Q105		
E	0	0
C	0	0.8
B	5.0	0
Q106		
E	0	0
C	0.5	4.1
B	5.0	0
Q107		
E	5.5	5.3
C	5.4	5.3
B	0.5	0
Q108		
E	0	0
C	3.8	3.8
B	0	0
Q201		
E	0	0
C	0.5	0.9
B	1.1	0
Q202		
E	5.0	5.3
C	5.3	0.8
B	0.4	5.0
Q203		
E	0	0
C	2.4	0
B	0	5.0

〈MDA〉

MODE /PIN	REC	PLAY
IC301		
1	5.0	5.3
2	0	0
3	2.0	2.8
4	2.8	2.8
5	-	-
6	2.1	2.1
7	1.6	1.6
8	3.9	3.8
9	1.6	1.6
10	5.0	5.0
11	1.1	1.0
12	1.9	1.9
13	2.8	2.8
14	2.0	2.0
15	0.5	0
16	2.0	2.0
17	6.8	6.7
18	2.0	2.1
19	2.5	2.5
20	2.5	2.5
21	1.1	1.1
22	1.0	1.0
23	4.0	3.9
24	3.9	3.9
25	4.7	4.6
26	2.8	2.8
27	2.8	2.8
28	2.8	2.8
29	0.6	0.6
30	0	0
IC351		
1	0	0
2	2.7	2.7
3	2.6	2.5
4	1.6	1.6
5	0	0
6	1.8	1.7
7	1.5	1.4
8	0.8	0.7
9	4.3	4.2
10	0.9	0.8
11	0	0
12	0	0
13	0	0
14	5.0	5.3
15	2.8	2.8
16	2.8	-
17	2.8	-
18	4.5	4.4
19	0.4	0
20	2.8	2.7
21	2.8	2.7
22	2.8	2.7
23	2.8	2.7
24	2.8	2.7
25	2.8	2.7
26	2.1	2.1
27	2.1	2.1
28	2.1	2.0
29	1.1	1.0
30	1.1	1.0
31	1.1	1.0
32	0.4	0.7
Q351		
1	NC	NC
2	NC	NC
3	NC	NC
4	NC	NC
5	NC	NC
6	NC	NC
7	NC	NC
8	0	1.0
9	0	2.1
10	1.1	0.6
11	2.1	0.7
12	0	1.0
13	2.1	0.7
14	2.6	2.6

〈AUDIO〉

MODE /PIN	REC	PLAY
IC401		
1	2.1	2.0
2	2.7	2.7
3	2.7	2.6
4	2.7	2.6
5	2.7	2.6
6	2.7	2.6
7	0.4	0
8	2.2	2.1
9	0.4	0
10	2.7	2.6
11	0	0
12	0.4	0
13	2.7	2.7
14	4.6	0.7
15	2.7	2.7
16	0.4	0
17	0.4	0
18	0	0
19	2.1	2.1
20	0.4	0
21	2.1	2.1
22	5.0	5.0
23	2.1	2.1
24	5.0	5.0
IC402		
1	2.7	2.6
2	2.7	2.6
3	2.7	2.6
4	0	0
5	1.6	1.5
6	4.1	4.0
7	4.1	4.0
8	5.0	5.0
IC403		
1	3.2	3.2
2	3.6	3.5
3	3.1	3.1
4	0	0
5	0	0
6	5.0	5.0
7	2.3	2.3
8	0	0
Q401		
E	0	0
C	4.2	0.7
B	0.5	0.7
Q402		
E	5.0	5.0
C	4.6	5.0
B	0	0
Q403		
E	4.6	5.0
C	4.4	0.7
B	0	5.0
Q404		
E	5.0	4.6
C	-17.6	4.6
B	5.0	0
Q405		
1	0	0
2	0	0
3	-17.4	0.8
4	-9.5	0
5	-17.7	0.9
Q406		
E	0	0
C	5.0	0
B	0	4.9
Q407		
E	0	0
C	0	0
B	4.0	3.9
Q408		
E	0	0
C	4.0	3.9
B	0	0

〈Y/C〉

MODE /PIN	REC	PLAY
IC501		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	4.7	4.7
8	4.6	4.6
9	3.1	3.1
10	1.8	1.9
11	3.8	3.8
12	2.6	2.6
13	3.0	3.0
14	3.1	3.2
15	3.2	3.2
16	3.2	3.1
17	1.5	1.5
18	0	0
19	5.0	5.0
20	2.4	2.5
21	3.1	2.8
22	0	0
23	1.5	0.8
24	3.0	3.5
25	0	0
26	3.9	1.9
27	2.1	2.3
28	0	0
29	0	0
30	0	0
31	2.1	0
32	0	0
33	0	0
34	1.8	1.8
35	0	0
36	1.8	0
37	5.0	5.0
38	5.0	5.0
39	2.4	2.4
40	2.5	2.5
41	3.4	3.3
42	3.3	3.3
43	1.7	0
44	0	0
45	0	0
46	5.0	5.0
47	5.0	5.0
48	2.1	2.1

MODE /PIN	REC	PLAY
49	3.1	2.8
50	5.0	5.0
51	0	2.5
52	0	0
53	0.6	0
54	0	0
55	0	0
56	0	0
57	0	0
58	0	0
59	2.3	0
60	0	0
IC502		
1	4.5	2.4
2	0	0
3	4.7	2.4
4	3.5	3.5
5	3.8	3.7
6	0	0
7	2.3	2.2
8	4.4	4.4
9	3.2	3.1
10	0	3.2
11	3.8	3.7
12	3.6	3.5
13	3.5	3.5
14	3.5	3.5
15	5.0	5.0
16	3.8	3.9
Q501		
E	0	0
C	0	0
B	0	0
Q502		
E	0	0
C	0	2.2
B	5.1	0
Q503		
E	0	0
C	0	1.0
B	0	0
Q511		
E	3.8	1.9
C	5.0	5.0
B	4.4	2.4
Q512		
E	0	0
C	0	3.2
B	5.1	0

<PRE/REC>

MODE /PIN	REC	PLAY
IC601		
1	5.0	0
2	0	2.1
3	0.8	1.0
4	1.5	1.5
5	0	5.0
6	3.1	1.5
7	4.4	2.1
8	1.7	0
9	2.2	3.0
10	2.9	2.9
11	2.6	2.9
12	3.3	3.3
13	0	0
14	0.7	0.5
15	2.6	2.6
16	2.0	2.6
17	0	0
18	0	0
19	0	0
20	4.4	0
21	0	0.8
22	4.4	0
23	0.5	0.9
24	0.5	1.1
25	0	0
26	4.3	0
27	3.3	0
28	0	0
29	0.5	0.8
30	0.5	0.8
31	0	0
32	0	0
33	0.5	1.0
34	4.4	0.9
35	4.3	0
36	3.3	0.8
37	4.3	0
38	0	0
39	0.5	1.0
40	0.5	0.9
41	4.4	0
42	0	0
43	4.4	0
44	0	0
45	5.0	5.0
46	5.0	5.0
47	2.8	3.8
48	3.0	2.1
IC602		
1	0	3.6
2	0	0
3	0	3.2
4	0	0
5	0	0
6	0	3.9
7	0	2.7
8	0	5.0
Q601		
E	4.4	0
C	0	0
B	4.2	0.9
Q602		
E	0	0
C	4.4	0
B	4.2	0.8
Q603		
E	4.5	0
C	4.4	0
B	4.0	0.9
Q604		
E	4.4	0
C	0	0
B	4.2	0.8
Q606		
E	2.4	1.6
C	5.0	5.0
B	3.0	2.1
Q607		
E	5.0	5.3
C	0	5.0
B	5.2	0

<FLYING ERASE>

MODE /PIN	REC	PLAY
Q701		
E	5.0	5.0
C	5.2	0
B	5.3	5.3
Q702		
E	0.5	1.0
C	4.9	0
B	1.0	0
Q703		
E	0.5	1.0
C	4.9	0
B	1.0	0
Q704		
E	0	0
C	0.6	0.9
B	0	0

<REGULATOR>

MODE /PIN	REC	PLAY
IC721		
1	4.3	4.4
2	6.4	6.2
3	0	6.6
4	0	0
5	1.7	1.8
6	2.7	2.8
7	2.7	2.8
8	5.2	5.3
9	-	2.7
10	2.1	0
11	0.6	2.8
12	2.7	0
13	15.2	0
14	0	0
15	2.1	2.0
16	0	0
17	1.9	1.8
18	6.6	6.8
19	2.8	2.7
20	3.8	3.8
21	3.9	0
22	6.6	6.8
23	0	0
24	6.6	6.8
25	1.4	1.3
26	1.4	1.3
27	1.8	1.7
28	2.8	2.7
29	6.8	6.8
30	0	0
31	2.7	2.8
32	0	0
33	2.7	2.8
34	6.2	6.2
35	6.5	6.4
36	6.5	0.9
37	6.3	6.2
38	1.0	0
39	6.5	6.6
40	6.3	6.4
41	0.8	0
42	0	0
43	0.6	0
44	6.4	6.6
45	6.8	6.8
46	5.9	6.0
47	1.9	1.8
48	5.8	0.6
Q721		
E	6.8	6.8
C	0	0
B	6.4	0.6
Q722		
E	-8.0	0
C	-8.8	0
B	-7.6	0
Q723		
E	6.8	6.8
C	5.0	-
B	5.9	6.0
Q724		
E	6.8	6.8
C	2.3	-
B	6.3	6.4
Q725		
E	6.8	6.8
C	6.8	6.8
B	5.9	6.0
Q726		
E	0	0
C	0	0
B	4.9	4.9
Q727		
E	5.0	5.3
C	5.0	5.0
B	4.5	4.6
Q728		
E	4.9	0
C	0	0
B	0	4.9
Q729		
E	5.0	5.0
C	5.0	1.0
B	4.5	5.1
Q730		
E	4.8	0
C	0	5.3
B	0	0
Q732		
E	3.9	3.9
C	6.8	6.8
B	0	4.9
Q734		
E	3.9	0
C	6.8	6.8
B	5.0	0
Q735		
E	5.2	5.2
C	5.2	5.2
B	4.5	4.4
Q736		
E	0	0
C	0	0
B	4.8	4.7

<H-IC>

MODE /PIN	REC	PLAY
IC1001		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	-	-
19	-	-
20	-	-
21	-	-
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	-	-
28	-	-
29	-	-
30	-	-
31	-	-
32	-	-
33	-	-
34	-	-
35	-	-
36	-	-
37	-	-
38	-	-
39	-	-
40	-	-
41	-	-
42	-	-
43	-	-
44	-	-
45	-	-
46	-	-
47	-	-
48	-	-
49	-	-
50	-	-
51	-	-
52	-	-
53	-	-
54	-	-
55	-	-
56	-	-
57	-	-
58	-	-
59	-	-
60	-	-
61	-	-
62	-	-
63	-	-
64	-	-
IC1003		
1	0	0
2	0	0
3	5.0	5.0
4	3.5	3.5
5	1.9	1.8
6	3.0	2.9
7	2.1	2.1
8	10.2	10.1
Q1001		
E	2.9	2.9
C	5.0	5.0
B	3.5	3.5
Q1002		
E	2.4	2.4
C	0	0
B	1.8	1.8

<JACK>

MODE /PIN	REC	PLAY
IC11		
1	0	0
2	6.6	6.7
3	0	0
4	0	0
5	2.3	2.3
6	0	0
7	2.3	2.3
8		
Q11		
E	6.6	6.8
C	6.6	6.7
B	5.9	6.0
Q13		
E	0	0
C	0	0
B	4.8	0
Q14		
E	6.6	6.7
C	6.6	6.7
B	0	0
Q15		
E	2.0	1.9
C	5.0	4.9
B	2.6	2.5
Q16		
E	1.8	1.7
C	5.0	4.9
B	2.4	2.3
Q17		
E	5.3	5.2
C	0	0
B	5.2	5.2
Q18		
E	0	0
C	4.1	4.1
B	0	0
Q19		
E	0	0
C	0	0
B	4.2	4.1
Q21		
E	0	0
C	0.4	0
B	5.2	5.2

〈PROCESS〉

MODE /PIN	EE
IC801	
1	0
2	3.8
3	2.0
4	2.1
5	2.1
6	5.0
7	5.0
8	1.8
9	2.3
10	1.9
11	2.0
12	2.0
13	2.0
14	2.8
15	4.7
16	2.1
17	3.0
18	2.8
19	5.0
20	2.0
21	2.0
22	0
23	0
24	2.2
25	3.1
26	1.5
27	0
28	2.2
29	2.2
30	1.8
31	0
32	2.3
33	2.3
34	0
35	2.7
36	5.0
37	1.8
38	1.8
39	2.3
40	2.4
41	1.8
42	1.8
43	2.0
44	0
45	2.3
46	0
47	0
48	0
49	2.0
50	2.1
51	2.1
52	5.0
53	2.1
54	2.1
55	1.9
56	2.1
57	2.9
58	2.1
59	2.1
60	2.9
61	1.4
62	1.4
63	1.7
64	0
65	2.1
66	0
67	1.8
68	2.1
69	2.1
70	2.1
71	3.4
72	2.0
73	0.7
74	3.3
75	2.2
76	3.4
77	3.0
78	2.2
79	2.2
80	1.7
IC802	
1	2.6
2	0
3	5.0
4	0
5	2.6
6	5.0
7	2.8
8	2.4
9	2.8
10	0
11	2.6
12	0.7
13	2.0
14	2.7
15	0
16	3.0
IC803	
1	1.5
2	0.5
3	0
4	2.8
5	2.0
6	0
7	0
8	0
9	2.0
10	1.9
11	1.2
12	5.0
13	5.0
14	2.0
15	3.8
16	1.7
17	0.5
18	1.4
19	5.1
20	1.8
21	1.4
22	1.2
23	0.5
24	2.1
25	0
26	4.8
27	0
28	0
29	0
30	1.2
31	1.8
32	1.3
IC804	
1	0.4
2	0
3	2.6
4	2.6
5	2.7
6	5.0
7	0
8	0
9	0
10	0
11	0
12	0
13	0
14	0
IC805	
1	2.0
2	0
3	2.8
4	5.0
5	0
6	0
7	3.7
8	2.1
9	2.0
10	2.0
11	0
12	1.0
13	1.5
14	2.1
IC806	
1	1.8
2	0
3	0
4	0
5	2.0
6	0
7	3.0
8	2.7
9	1.7
10	0
11	2.5
12	2.9
13	0
14	5.0
15	0
16	1.4
17	3.3
18	0
19	1.9
20	0
21	2.0
22	0
23	2.0
24	2.0
IC807	
1	2.8
2	2.2
3	2.2
4	0
5	2.2
6	2.2
7	3.1
8	5.0
IC808	
1	3.7
2	3.1
3	0
4	0
5	0
6	2.1
7	0
8	5.0
IC809	
1	1.9
2	1.9
3	1.9
4	5.0
5	3.5
6	3.5
7	3.5
8	1.3
9	0.7
10	0.7
11	0
12	2.0
13	1.4
14	1.6
IC810	
1	3.0
2	0
3	0
4	0
5	2.2
6	2.2
7	2.8
8	5.0
IC811	
1	2.6
2	2.7
3	2.7
4	0
5	2.6
6	2.6
7	2.1
8	5.0
Q801	
E	2.1
C	0
B	1.5
Q802	
E	1.6
C	5.0
B	2.2
Q804	
E	2.7
C	0
B	2.1
Q805	
E	2.7
C	0
B	2.1
Q806	
E	0
C	5.0
B	2.4
Q807	
E	1.8
C	5.0
B	2.4
Q808	
E	2.1
C	0
B	1.5
Q812	
1	3.1
2	3.6
3	3.1
4	5.0
5	3.1
Q814	
E	2.2
C	5.0
B	2.8
Q815	
E	0.7
C	2.8
B	1.3
Q816	
E	5.0
C	1.5
B	4.5
Q817	
E	0.9
C	4.4
B	1.6
Q818	
E	2.1
C	0
B	1.4
Q819	
E	0.6
C	5.0
B	0.6
Q820	
E	5.0
C	0.7
B	4.5
Q821	
E	1.5
C	5.0
B	1.8
Q825	
E	1.3
C	5.0

〈CCD〉

MODE /PIN	EE
IC951	
1	-6.7
2	-7.0
3	1.1
4	0
5	0
6	5.2
7	0.5
8	5.1
9	0.4
10	5.0
11	0.7
12	5.0
13	5.2
14	5.0
15	0
16	15.3
17	-6.6
18	-6.6
19	1.4
20	15.3
IC952	
1	5.1
2	0
3	2.9
4	0
5	2.7
6	2.0
7	0
8	5.0
9	0
10	0
11	0.4
12	0.5
13	4.9
14	5.1
15	5.1
16	0.6
17	0.6
18	0.6
19	1.5
20	0.5
21	0.6
22	2.8
23	0.6
24	5.2
25	0
26	0.8
27	0.4
28	4.0
29	1.2
30	0.4
31	1.0
32	5.2
33	2.1
34	0
35	0.5
36	0
37	1.4
38	4.7
39	0
40	0
41	5.1
42	2.6
43	2.8
44	5.2
45	5.2
46	0.4
47	0.4
48	3.2
49	3.0
50	0
51	3.0
52	0
53	0.9
54	2.6
55	2.6
56	0
57	5.1
58	0.7
59	2.7
60	0
61	0.9
62	1.6
63	1.2
64	1.2
IC953	
1	1.9
2	0.6
3	2.9
4	5.0
5	1.4
6	1.2
7	0
8	1.7
Q951	
E	9.6
C	15.0
B	10.4
Q952	
1	5.6
2	6.2
3	6.2
4	2.9
5	3.5
6	15.0
Q954	
E	1.2
C	5.0
B	0
Q955	
E	2.0
C	5.0
B	2.2
Q956	
E	1.4
C	5.0
B	2.0

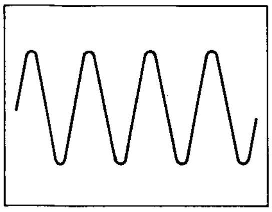
〈MONITOR〉

MODE /PIN	EE
IC1	
1	0.8
2	0
3	6.3
4	0.7
5	0.6
6	0
7	0
8	0.6
IC201	
1	2.3
2	4.4
3	2.4
4	0.7
5	0
6	4.2
7	0
8	1.4
9	2.2
10	2.2
11	2.2
12	2.9
13	3.1
14	4.3
15	2.7
16	3.2
17	0
18	7.9
19	2.7
20	0
21	2.7
22	-1.5
23	2.7
24	-1.4
25	5.0
26	3.3
27	2.7
28	2.8
29	2.9
30	2.3
31	0.5
32	2.3
33	-1.2
34	2.7
35	2.7
36	0.5
37	0.9
38	2.8
39	0
40	0
41	0
42	2.7
43	5.0
44	1.7
45	2.2
46	3.1
47	2.3
48	3.0
IC202	
1	-2.4
2	0
3	0
4	-7.7
5	-2.4
6	-2.4
7	-2.4
8	5.0
IC203	
1	0
2	2.7
3	0.5
4	0.7
5	4.7
6	0
7	0
8	2.7
9	2.7
10	0.9
11	5.0
12	0
13	5.0
14	5.0
15	0
16	0
17	0
18	2.7
19	0
20	0
21	0
22	1.1
23	0
24	0
25	0.5
26	2.3
27	2.5
28	2.6
29	0
30	5.0
31	0
32	0
33	5.0
34	5.0
35	0
36	2.7
37	4.9
38	4.9
39	4.9
40	4.9
41	0
42	0
43	4.9
44	0
45	0
46	2.6
47	2.6
48	2.7
IC204	
1	2.6
2	0
3	2.6
4	2.8
5	5.0
IC205	
1	0
2	4.7
3	5.0
4	5.0
5	5.0
6	0
7	0
8	2.6
9	0
10	2.6
11	0
12	5.0
13	4.7
14	5.0
Q1	
E	0
C	6.0
B	0.7
Q2	
E	0
C	0
B	5.0
Q3	
E	5.0
C	5.0
B	3.2
Q4	
E	5.0
C	5.0
B	4.3
Q5	
E	0
C	0
B	5.0
Q6	
E	-13.4
C	-13.3
B	-12.7
Q7	
E	-13.4
C	5.0
B	-13.3
Q101	
E	6.2
C	6.2
B	5.4
Q102	
E	0
C	0.6
B	1.1
Q103	
E	0
C	6.0
B	0
Q104	
E	0
C	6.0
B	0
Q201	
1	0
2	0.6
3	5.0
4	0
5	5.0
Q202	
E	2.5
C	3.9
B	3.0

4.26 WAVEFORMS

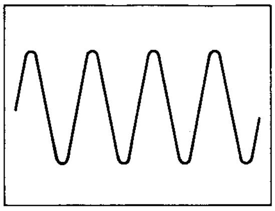
— SYSCON —

WF1 IC101-99



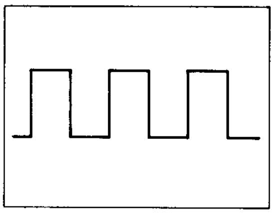
REC/PB 3.5 Vp-p
50 mVp-p/0.2 msec/DIV

WF2 IC101-100



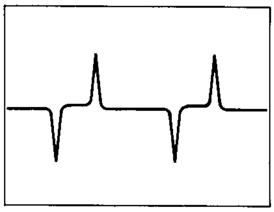
REC/PB 1.5 Vp-p
50 mVp-p/0.5 msec/DIV

WF3 IC101-101



REC/PB 0.25 Vp-p
5 mVp-p/0.2 msec/DIV

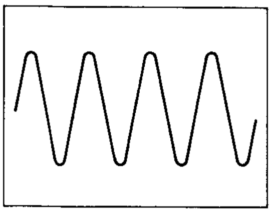
WF4 IC101-93



PB 1.75 Vp-p
50 mVp-p/2 msec/DIV

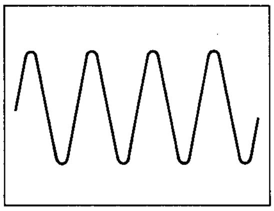
— MDA —

WF1 IC301-3



REC/PB 1.5 Vp-p
50 mVp-p/0.5 msec/DIV

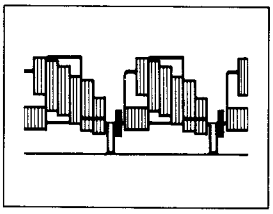
WF2 IC351-15



REC/PB 3.0 Vp-p
0.1 Vp-p/0.2 msec/DIV

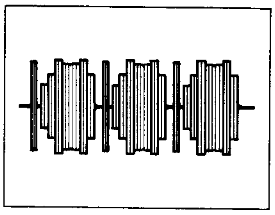
— Y/C —

WF1 TP501 V. OUT



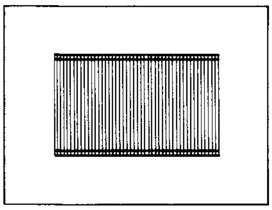
REC/PB 2.0 Vp-p
50 mVp-p/20 μsec/DIV

WF2 IC501-20



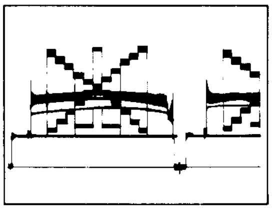
REC 0.45 Vp-p
10 mVp-p/20 μsec/DIV

WF3 IC501-24



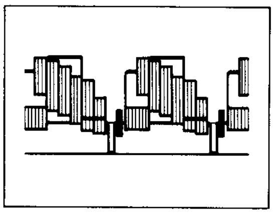
REC 1.0 Vp-p
20 mVp-p/20 μsec/DIV

WF4 IC501-43



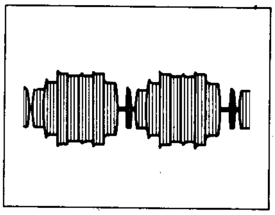
REC 1.0 Vp-p
20 mVp-p/20 μsec/DIV

WF5 IC501-48



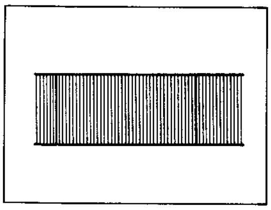
REC/PB 1.2 Vp-p
20 mVp-p/20 μsec/DIV

WF6 IC501-59



REC 0.35 Vp-p
10 mVp-p/20 μsec/DIV

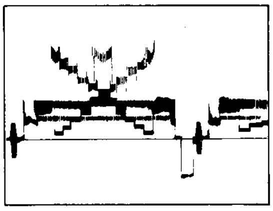
WF7 IC502-9



REC 0.4 Vp-p
20 mVp-p/0.5 msec/DIV

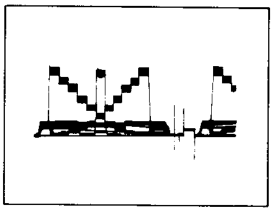
— PROCESS —

WF1 IC801-65



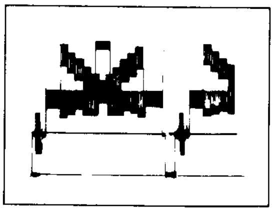
1.2 Vp-p
20 mVp-p/20 μsec/DIV

WF2 IC801-53



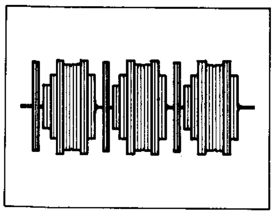
0.7 Vp-p
20 mVp-p/20 μsec/DIV

WF3 IC801-28



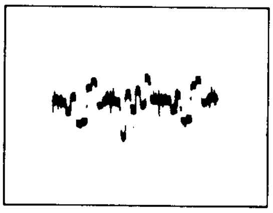
1.2 Vp-p
20 mVp-p/20 μsec/DIV

WF4 IC801-18



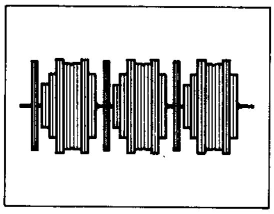
0.35 Vp-p
10 mVp-p/20 μsec/DIV

WF5 IC801-1



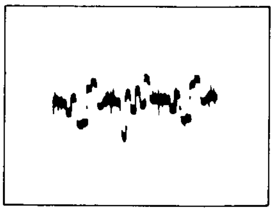
0.2 Vp-p
5 mVp-p/20 μsec/DIV

WF6 IC801-20



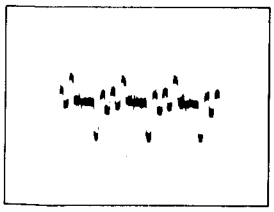
0.25 Vp-p
5 mVp-p/20 μsec/DIV

WF7 IC801-22



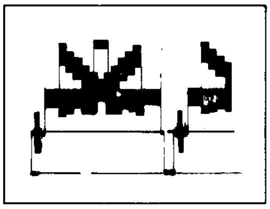
0.2 Vp-p
5 mVp-p/20 μsec/DIV

WF8 IC801-23



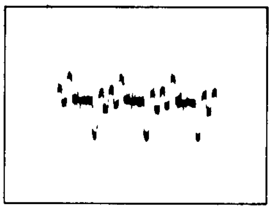
0.35 Vp-p
10 mVp-p/20 μsec/DIV

WF9 IC801-29



0.9 Vp-p
20 mVp-p/20 μsec/DIV

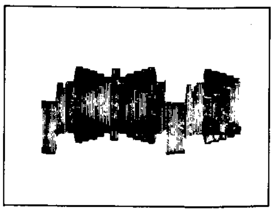
WF10 IC801-79



0.4 Vp-p
10 mVp-p/20 μsec/DIV

— CCD —

WF1 CN951-4



0.3 Vp-p
10 mVp-p/5 msec/DIV

<PROCESS>

MODE /PIN	EE
IC801	
1	0
2	3.8
3	2.0
4	2.1
5	2.1
6	5.0
7	5.0
8	1.8
9	2.3
10	1.9
11	2.0
12	2.0
13	2.0
14	2.8
15	4.7
16	2.1
17	3.0
18	2.8
19	5.0
20	2.0
21	2.0
22	0
23	0
24	2.2
25	3.1
26	1.5
27	0
28	2.2
29	2.2
30	1.8
31	0
32	2.3
33	2.3
34	0
35	2.7
36	5.0
37	1.8
38	1.8
39	2.3
40	2.4
41	1.8
42	1.8
43	2.0
44	0
45	2.3
46	0
47	0
48	0
49	2.0
50	2.1
51	2.1
52	5.0
53	2.1
54	2.1
55	1.9
56	2.1
57	2.9
58	2.1
59	2.1
60	2.9
61	1.4
62	1.4
63	1.7
64	0
65	2.1
66	0
67	1.8
68	2.1
69	2.1
70	2.1
71	3.4
72	2.0
73	0.7
74	3.3
75	2.2
76	3.4
77	3.0
78	2.2
79	2.2
80	1.7
IC802	
1	2.6
2	0
3	5.0
4	0
5	2.6
6	5.0
7	2.8
8	2.4
9	2.8
10	0
11	2.6
12	0.7
13	2.0
14	2.7
15	0
16	3.0
IC803	
1	1.5
2	0.5
3	0
4	2.8
5	2.0
6	0
7	0
8	0
9	2.0
10	1.9
11	1.2
12	5.0
13	5.0
14	2.0
15	3.8
16	1.7
17	0.5
18	1.4
19	5.1
20	1.8
21	1.4
22	1.2
23	0.5
24	2.1
25	0
26	4.8
27	0
28	0
29	0
30	1.2
31	1.8
32	1.3
IC804	
1	0.4
2	0
3	2.6
4	2.6
5	2.7
6	5.0
7	0
8	0
9	0
10	0
11	0
12	0
13	0
14	0
IC805	
1	2.0
2	0
3	2.8
4	5.0
5	0
6	0
7	3.7
8	2.1
9	2.0
10	2.0
11	0
12	1.0
13	1.5
14	2.1
IC806	
1	1.8
2	0
3	0
4	0
5	2.0
6	0
7	3.0
8	2.7
9	1.7
10	0
11	2.5
12	2.9
13	0
14	5.0
15	0
16	1.4
17	3.3
18	0
19	1.9
20	0
21	2.0
22	0
23	2.0
24	2.0
IC807	
1	2.8
2	2.2
3	2.2
4	0
5	2.2
6	2.2
7	3.1
8	5.0
IC808	
1	3.7
2	3.1
3	0
4	0
5	0
6	2.1
7	0
8	5.0
IC809	
1	1.9
2	1.9
3	1.9
4	5.0
5	3.5
6	3.5
7	3.5
8	1.3
9	0.7
10	0.7
11	0
12	2.0
13	1.4
14	1.6
IC810	
1	3.0
2	0
3	0
4	0
5	2.2
6	2.2
7	2.8
8	5.0
IC811	
1	2.6
2	2.7
3	2.7
4	0
5	2.6
6	2.6
7	2.1
8	5.0
Q801	
E	2.1
C	0
B	1.5
Q802	
E	1.6
C	5.0
B	2.2
Q804	
E	2.7
C	0
B	2.1
Q805	
E	2.7
C	0
B	2.1
Q806	
E	0
C	5.0
B	2.4
Q807	
E	1.8
C	5.0
B	2.4
Q808	
E	2.1
C	0
B	1.5
Q812	
1	3.1
2	3.6
3	3.1
4	5.0
5	3.1
Q814	
E	2.2
C	5.0
B	2.8
Q815	
E	0.7
C	2.8
B	1.3
Q816	
E	5.0
C	1.5
B	4.5
Q817	
E	0.9
C	4.4
B	1.6
Q818	
E	2.1
C	0
B	1.4
Q819	
E	0.6
C	5.0
B	0.6
Q820	
E	5.0
C	0.7
B	4.5
Q821	
E	1.5
C	5.0
B	1.8
Q825	
E	1.3
C	5.0

<CCD>

MODE /PIN	EE
IC951	
1	-6.7
2	-7.0
3	1.1
4	0
5	0
6	5.2
7	0.5
8	5.1
9	0.4
10	5.0
11	0.7
12	5.0
13	5.2
14	5.0
15	0
16	15.3
17	-6.6
18	-6.6
19	1.4
20	15.3
IC952	
1	5.1
2	0
3	2.9
4	0
5	2.7
6	2.0
7	0
8	5.0
9	0
10	0
11	0.4
12	0.5
13	4.9
14	5.1
15	5.1
16	0.6
17	0.6
18	0.6
19	1.5
20	0.5
21	0.6
22	2.8
23	0.6
24	5.2
25	0
26	0.8
27	0.4
28	4.0
29	1.2
30	0.4
31	1.0
32	5.2
33	2.1
34	0
35	0.5
36	0
37	1.4
38	4.7
39	0
40	0
41	5.1
42	2.6
43	2.8
44	5.2
45	5.2
46	0.4
47	0.4
48	3.2
49	3.0
50	0
51	3.0
52	0
53	0.9
54	2.6
55	2.6
56	0
57	5.1
58	0.7
59	2.7
60	0
61	0.9
62	1.6
63	1.2
64	1.2
IC953	
1	1.9
2	0.6
3	2.9
4	5.0
5	1.4
6	1.2
7	0
8	1.7
Q951	
E	9.6
C	15.0
B	10.4
Q952	
1	5.6
2	6.2
3	6.2
4	2.9
5	3.5
6	15.0
Q954	
E	1.2
C	5.0
B	0
Q955	
E	2.0
C	5.0
B	2.2
Q956	
E	1.4
C	5.0
B	2.0

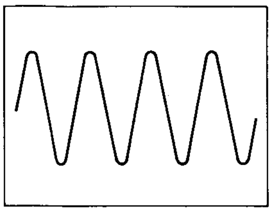
<MONITOR>

MODE /PIN	EE
IC1	
1	0.8
2	0
3	6.3
4	0.7
5	0.6
6	0
7	0
8	0.6
IC201	
1	2.3
2	4.4
3	2.4
4	0.7
5	0
6	4.2
7	0
8	1.4
9	2.2
10	2.2
11	2.2
12	2.9
13	3.1
14	4.3
15	2.7
16	3.2
17	0
18	7.9
19	2.7
20	0
21	2.7
22	-1.5
23	2.7
24	-1.4
25	5.0
26	3.3
27	2.7
28	2.8
29	2.9
30	2.3
31	0.5
32	2.3
33	-1.2
34	2.7
35	2.7
36	0.5
37	0.9
38	2.8
39	0
40	0
41	0
42	2.7
43	5.0
44	1.7
45	2.2
46	3.1
47	2.3
48	3.0
IC202	
1	-2.4
2	0
3	0
4	-7.7
5	-2.4
6	-2.4
7	-2.4
8	5.0
IC203	
1	0
2	2.7
3	0.5
4	0.7
5	4.7
6	0
7	0
8	2.7
9	2.7
10	0.9
11	5.0
12	0
13	5.0
14	5.0
15	0
16	0
17	0
18	2.7
19	0
20	0
21	0
22	1.1
23	0
24	0
25	0.5
26	2.3
27	2.5
28	2.6
29	0
30	5.0
31	0
32	0
33	5.0
34	5.0
35	0
36	2.7
37	4.9
38	4.9
39	4.9
40	4.9
41	0
42	0
43	4.9
44	0
45	0
46	2.6
47	2.6
48	2.7
IC204	
1	2.6
2	0
3	2.6
4	2.8
5	5.0
IC205	
1	0
2	4.7
3	5.0
4	5.0
5	5.0
6	0
7	0
8	2.6
9	0
10	2.6
11	0
12	5.0
13	4.7
14	5.0
Q1	
E	0
C	6.0
B	0.7
Q2	
E	0
C	0
B	5.0
Q3	
E	5.0
C	5.0
B	3.2
Q4	
E	5.0
C	5.0
B	4.3
Q5	
E	0
C	0
B	5.0
Q6	
E	-13.4
C	-13.3
B	-12.7
Q7	
E	-13.4
C	5.0
B	-13.3
Q101	
E	6.2
C	6.2
B	5.4
Q102	
E	0
C	0.6
B	1.1
Q103	
E	0
C	6.0
B	0
Q104	
E	0
C	6.0
B	0
Q201	
1	0
2	0.6
3	5.0
4	0
5	5.0
Q202	
E	2.5
C	3.9
B	3.0

4.26 WAVEFORMS

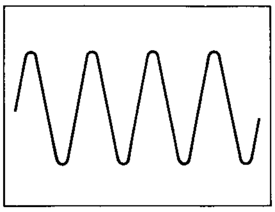
— SYSCON —

WF1 IC101-99



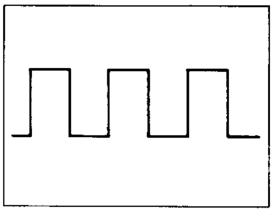
REC/PB 3.5 Vp-p
50 mVp-p/0.2 msec/DIV

WF2 IC101-100



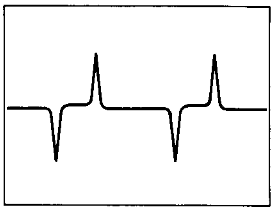
REC/PB 1.5 Vp-p
50 mVp-p/0.5 msec/DIV

WF3 IC101-101



REC/PB 0.25 Vp-p
5 mVp-p/0.2 msec/DIV

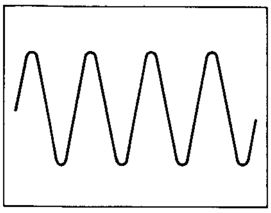
WF4 IC101-93



PB 1.75 Vp-p
50 mVp-p/2 msec/DIV

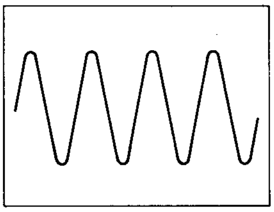
— MDA —

WF1 IC301-3



REC/PB 1.5 Vp-p
50 mVp-p/0.5 msec/DIV

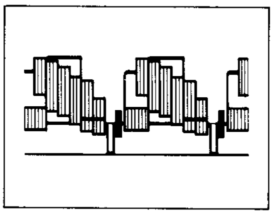
WF2 IC351-15



REC/PB 3.0 Vp-p
0.1 Vp-p/0.2 msec/DIV

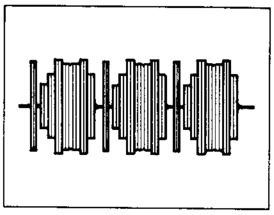
— Y/C —

WF1 TP501 V. OUT



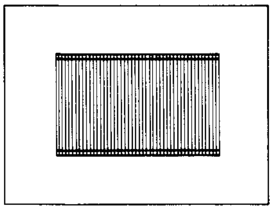
REC/PB 2.0 Vp-p
50 mVp-p/20 µsec/DIV

WF2 IC501-20



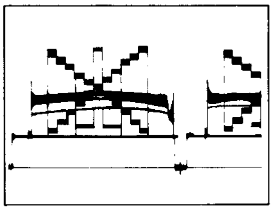
REC 0.45 Vp-p
10 mVp-p/20 µsec/DIV

WF3 IC501-24



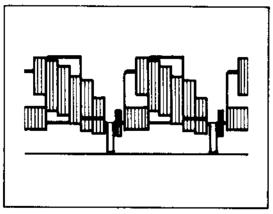
REC 1.0 Vp-p
20 mVp-p/20 µsec/DIV

WF4 IC501-43



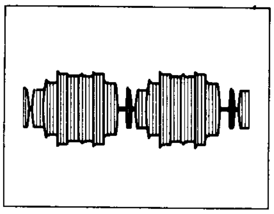
REC 1.0 Vp-p
20 mVp-p/20 µsec/DIV

WF5 IC501-48



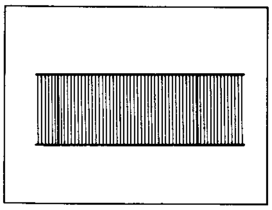
REC/PB 1.2 Vp-p
20 mVp-p/20 µsec/DIV

WF6 IC501-59



REC 0.35 Vp-p
10 mVp-p/20 µsec/DIV

WF7 IC502-9



REC 0.4 Vp-p
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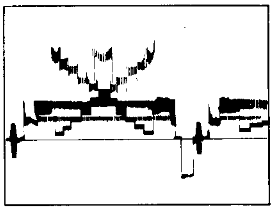
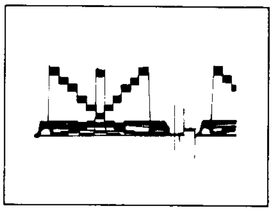
— PROCESS —

WF1 IC801-65



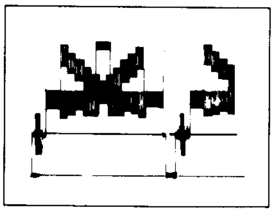
1.2 Vp-p
20 mVp-p/20 µsec/DIV

WF2 IC801-53



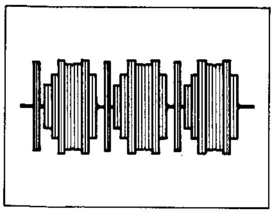
0.7 Vp-p
20 mVp-p/20 µsec/DIV

WF3 IC801-28



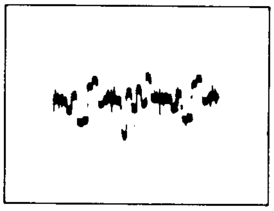
1.2 Vp-p
20 mVp-p/20 µsec/DIV

WF4 IC801-18



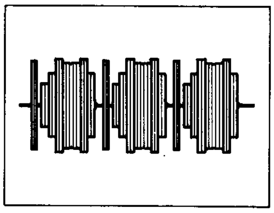
0.35 Vp-p
10 mVp-p/20 µsec/DIV

WF5 IC801-1



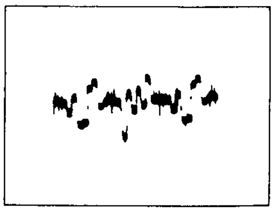
0.2 Vp-p
5 mVp-p/20 µsec/DIV

WF6 IC801-20



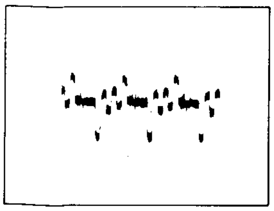
0.25 Vp-p
5 mVp-p/20 µsec/DIV

WF7 IC801-22



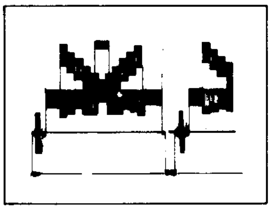
0.2 Vp-p
5 mVp-p/20 µsec/DIV

WF8 IC801-23



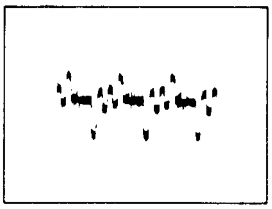
0.35 Vp-p
10 mVp-p/20 µsec/DIV

WF9 IC801-29



0.9 Vp-p
20 mVp-p/20 µsec/DIV

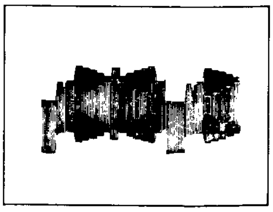
WF10 IC801-79



0.4 Vp-p
10 mVp-p/20 µsec/DIV

— CCD —

WF1 CN951-4



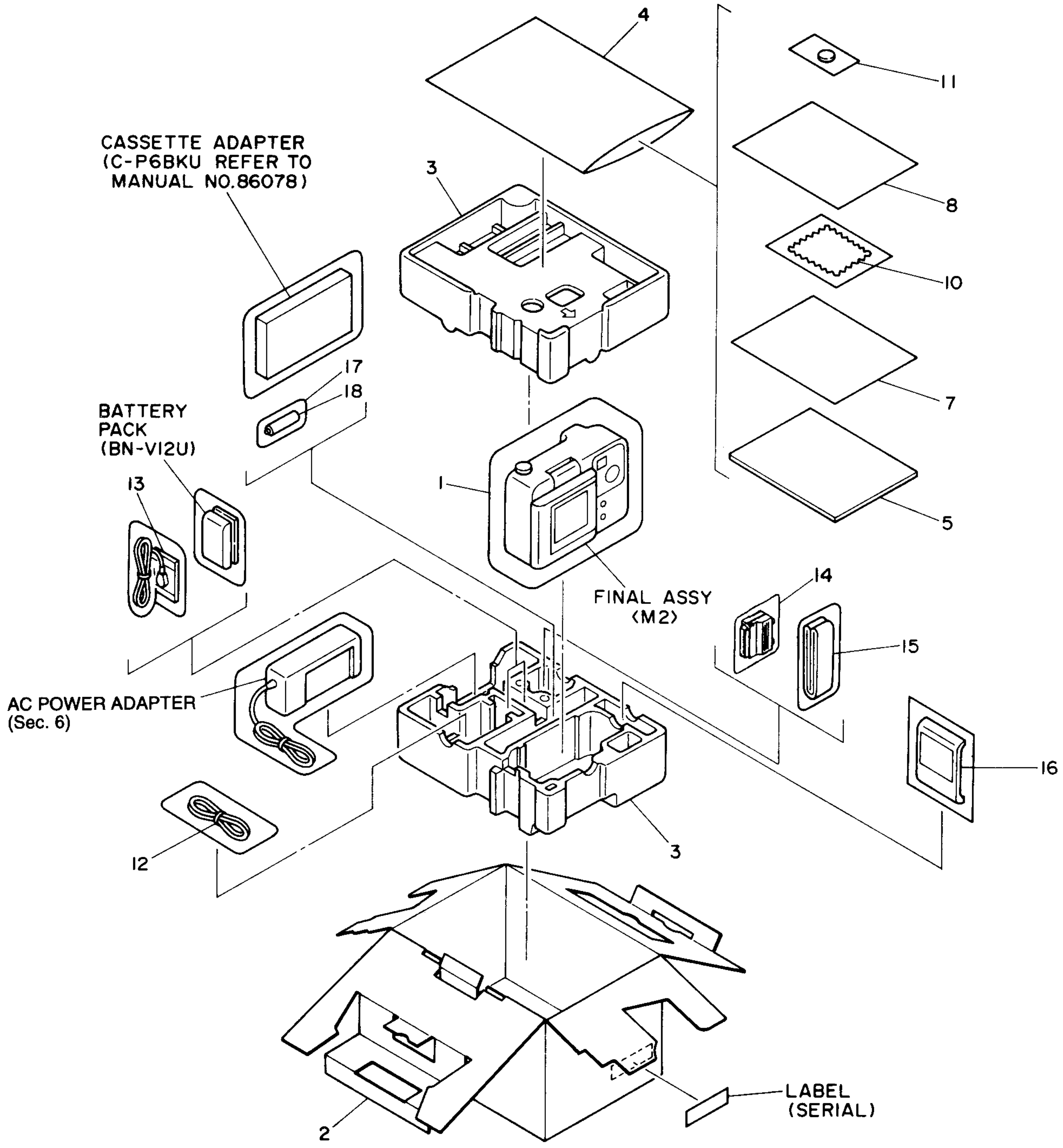
0.3 Vp-p
10 mVp-p/5 msec/DIV

SECTION 5
PARTS LIST

SAFETY PRECAUTION

Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

5.1 PACKING ASSEMBLY <M1>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11
CASSETTE ADAPTER
(C-P6BKU REFER TO
MANUAL NO.86078)
3
8
10
17
18
7
BATTERY
PACK
(BN-V12U)
13
1
5
14
FINAL ASSY
(M2)
15
AC POWER ADAPTER
(Sec. 6)
16
12
3
LABEL
(SERIAL)
2

****

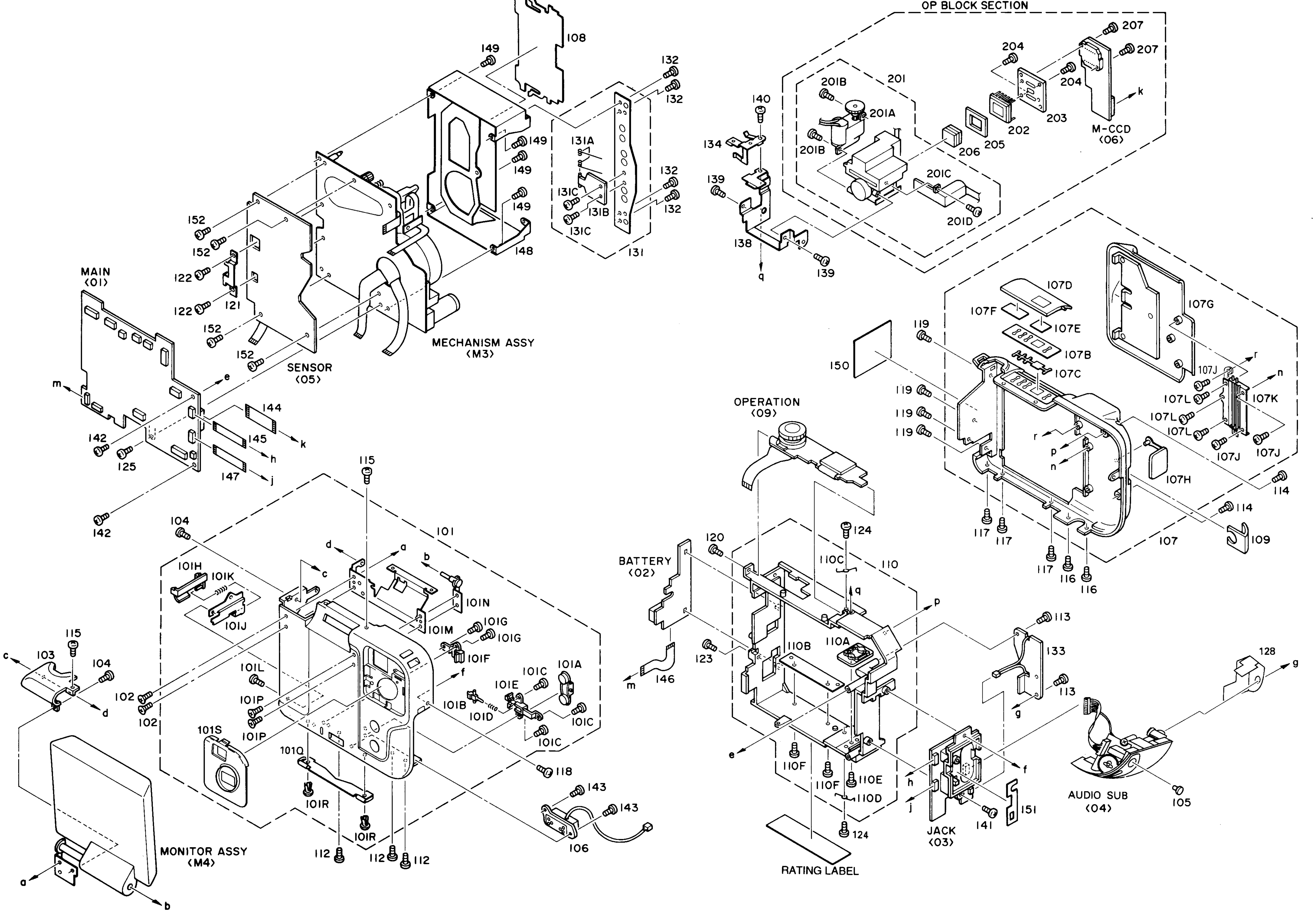
PACKING ASSEMBLY <M1>

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	1	YQM30021-24	POLY BAG
	2	YQ31834-5	PAKING CASE,SV3EG
		YQ31834-6	PAKING CASE,SV3EK
	3	YQ31835A-1	CUSHION ASSY
	4	YQM30061-2	POLY BAG,SV3EG
		YQM30061-3	POLY BAG,SV3EK
⚠	5	YU30052-427	INSTRUCTIONS,SV3EG, *1
⚠		YU30052-428	INSTRUCTIONS,SV3EK, *2
	7	BT-20066A	E.DISTRI.LIST,SV3EK
	8	BT-20060	GUARANTY CARD,SV3EK
	10	YQ43558	C.CLOTH ASSY
⚠	11	PECA0903	LI BATTERY
	12	YQ20755B	CABLE ASSY,AUDIO/VIDEO
	13	PEAC0134-01-04	DC PLUG CORD
	14	PEMC0945	CONNECTOR
	15	YQ10188A-1	S STRAP ASSY
	16	YQ20816-2	SUN HOOD
	17	QPGA005-01005	POLY BAG
	18	R6PRPA-2ST	BATTERY

- INSTRUCTIONS

*1 EG	ENGLISH FRENCH GERMAN SPANISH DUTCH SWEDISH ITALIAN DANISH FINNISH
*2 EK	ENGLISH

5.2 FINAL ASSEMBLY <M2>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MECHANISM ASSY
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110E
110D
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JACK
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151
AUDIO SUB
<04>
105

****

FINAL ASSEMBLY <M2>

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION
⚠	101	YQ10504B-3	FRONT CASE ASSY
	101A	YQ31720-1-2	BUTTON(ZOOM)
	101B	YQ43552	LOCK(LCD)
	101C	YQM30032-2-2	SPECIAL SCREW,X3 M2X4
	101D	YQM30002-43	COMPRESSION SPRING
	101E	YQ31721-1-1	HOLDER(Z.BUTT.)
	101F	YQ43531-1-1	INDICATOR(T.)
	101G	YQM30032-40	SPECIAL SCREW,X2 M2X4
	101H	YQ31696	KNOB(RELEASE)
	101J	YQ31697	HOLDER(KNOB)
	101K	YQM30002-44	COMPRESSION SPRING
	101L	YQM30032-37	SPECIAL SCREW,M2X3
	101M	YQ31725-1-2	BRACKET(FRONT)
	101N	YQ31726-1-1	HINGE
	101P	SSSH2606M	SCREW,X2
	101Q	YQ31727	FOOT ASSY
	101R	PEME0955	NYLON RIVET,X2
	101S	YQ31723A-1	WINDOW ASSY
	102	SSSH2606M	SCREW,X2
	103	YQ31729-2	COVER(SHAFT)
	104	YQM30032-37	SPECIAL SCREW,X2 M2X3
	105	YQ43518	CAP(JACK)
	106	YQ31688-1-1	MICROPHONE
⚠	107	YQ10506F-7	REAR CASE ASSY
	107B	YQ31854	SHEET(OPE.)
	107C	YQ31703-2	ACTUATOR
	107D	YQ31704-1-1	DOOR(OPE.)
	107E	YQ43539-5	WINDOW(DOOR)
	107F	YQ43794-5	LABEL(DOOR)
⚠	107G	YQ20780F-4	CASSETTE COVER ASSY
	107H	YQ31700-1-2	COVER(JACK)
	107J	YQM30032-44	SPECIAL SCREW,X3 M2X5
	107K	YQ31705A-2	HOLDER(SHAFT)ASSY
	107L	YQM30032-44	SPECIAL SCREW,X3 M2X4
	108	YQ31710	C.COVER(IN)
	109	YQ31711-1-4	HOLDER(L.BATT.)
	110	YQ20781A-3	FRAME ASSY
	110A	YQ31712-1-1	BASE
	110B	YQ31713-1-1	BRACKET(BOTTOM)
	110C	YQ43543	SPRING(TOR.1)
	110D	YQ43555	SPRING(TOR.2)
	110E	YQM30032-2-2	SPECIAL SCREW,M2X5
	110F	YQM30032-37	SPECIAL SCREW,X2 M2X3
	112	YQM30032-57	SPECIAL SCREW,X3 M2X7
	113	YQM30032-2-2	SPECIAL SCREW,X2 M2X7
	114	YQM30032-57	SPECIAL SCREW,X2 M2X7
	115	YQM30032-57	SPECIAL SCREW,X2 M2X7
	116	YQM30032-57	SPECIAL SCREW,X2 M2X7
	117	YQM30032-37	SPECIAL SCREW,X3 M2X3
	118	YQM30032-6-2	SPECIAL SCREW,M2X7
	119	YQM30032-2-2	SPECIAL SCREW,X4 M2X7
	120	YQM30032-2-2	SPECIAL SCREW,M2X5
	121	YQ43544	BRACKET(MECHA)
	122	SPSH1725Z	SCREW,X2
	123	YQM30032-48	SPECIAL SCREW,M2X7
	124	YQ43545	SPECIAL SCREW,X2
	125	SPSH1720M	SCREW
	128	YQ43867	COVER
	131	YQ31762A-1	FRONT FRAME ASSY
	131A	YQ43597	TAPE GUIDE
	131B	YQ31794-1-1	TAPE GUIDE HOLDER
	131C	SPSH1720M	SCREW,X2
	132	SPSH1725Z	SCREW,X4
	133	YQ43546A-2	BASE(L/B)ASSY
	134	YQ31716-1-1	PLATE(EARTH)
	138	YQ31717-1-4	BRACKET(OP)
	139	SPSN1735Z	SCREW,X2
	140	YQM30032-2-2	SPECIAL SCREW,M2X5
	141	YQM30032-2-2	SPECIAL SCREW,M2X5
	142	YQM30032-2-2	SPECIAL SCREW,X2 M2X5
	143	YQM30032-44	SPECIAL SCREW,X2 M2X4
	144	PEWR0747	FPC
	145	PEWR0748	FPC
	146	PEWR0749	FPC
	147	PEWR0748	FPC
	148	YQ31752A-1	CASSETTE HOUSING ASSY
	149	SPSH1725M	SCREW,X4
⚠	150	YQ31714-4-2	LABEL(B.BASE)
	151	YQ43781-2-2	LABEL(JACK)
	152	SPSH1730M	SCREW,X4

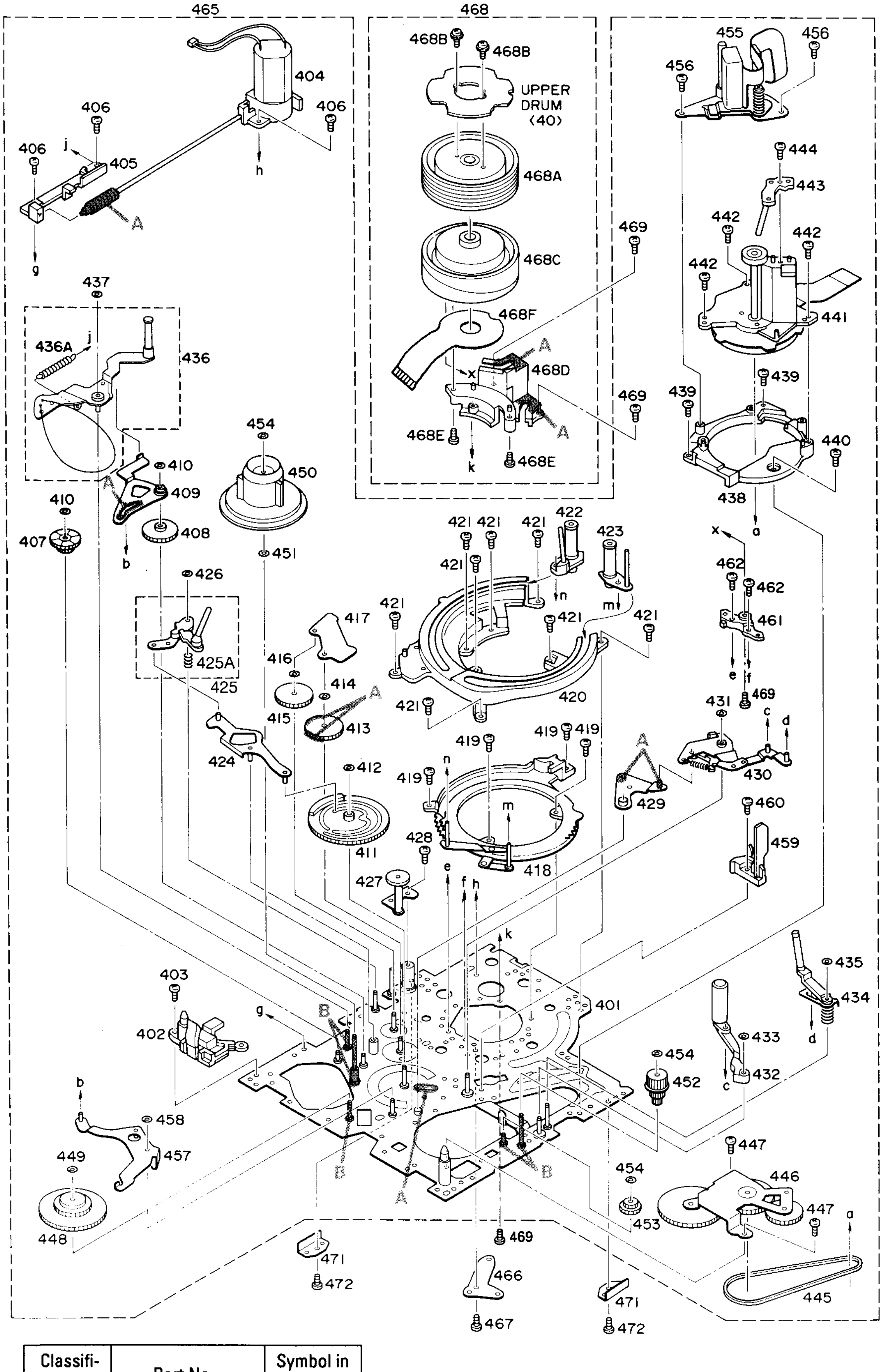
- OPTICAL BLOCK SECTION -

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION
⚠	201	YU30780-1-1	OP BLOCK ASSY
	201A	YU30780-001	ZOOM MOTOR ASSY
	201B	YU30780-003	SCREW,X2
	201C	YU30780-006	IRIS MOTOR ASSY
	201D	YU30780-010	SCREW
⚠	202	MN3721MFP	CCD ASSY
	203	YQ43514	CCD BASE
	204	SPSG2005Z	SCREW,X2
	205	YQ43759	SPACER RUBBER
	206	YU42053	OPTICAL LOW PASS FILTER
	207	SPSP2006Z	SCREW,X2

5.3 MECHANISM ASSEMBLY <M3>

BEWARE OF BOGUS PARTS

Parts that do not meet specifications may cause trouble in regard to safety and performance. We recommend that genuine JVC parts be used.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445

Classification	Part No.	Symbol in drawing
Grease	KYODO-SH-P	A
Oil	YTU94027	B

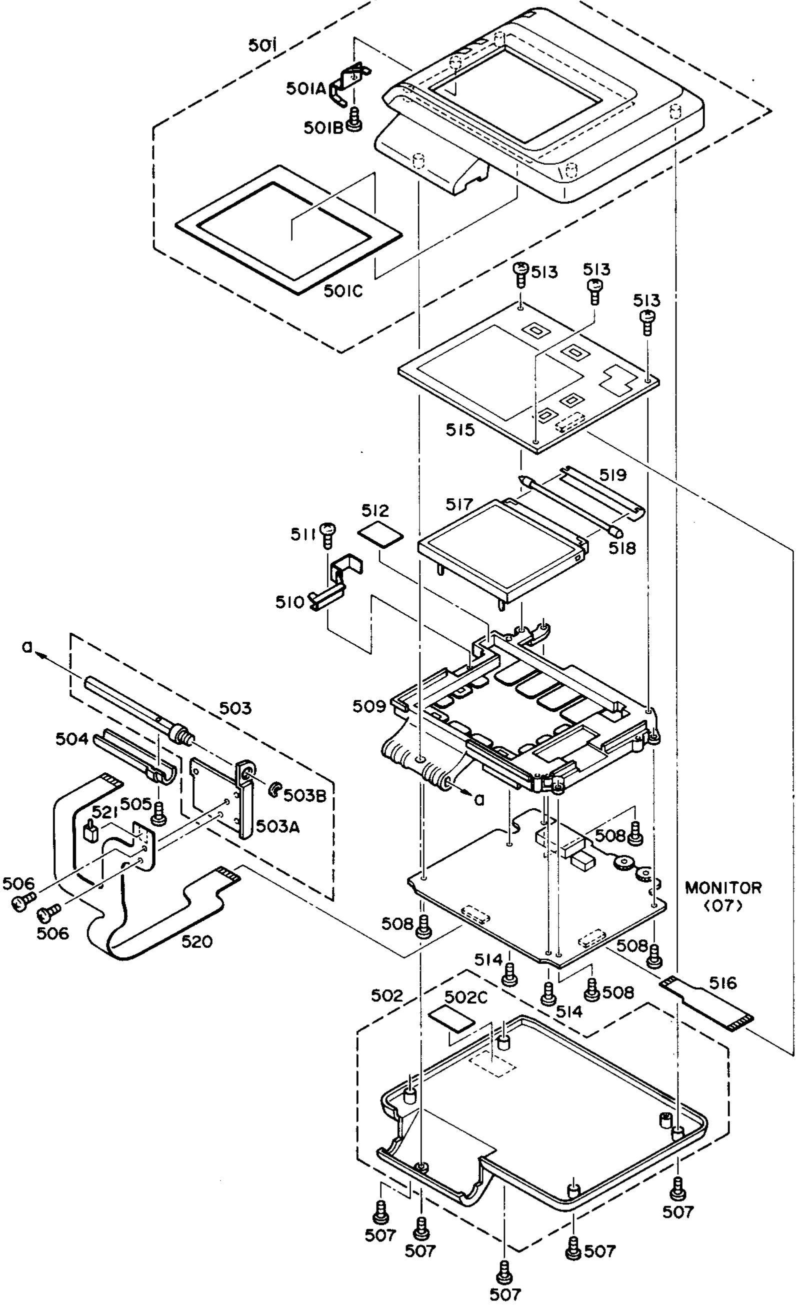
NOTE: The section marked in A and B indicate lubrication and greasing areas.

****

MECHANISM ASSEMBLY <M3>

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	401	YQ20790A-3	MAIN DECK ASSY
	402	YQ43618A-1	CASS.GUIDE(L) ASSY
	403	SPSH1740Z	SCREW
⚠	404	YQ31836A-4	MOTOR BRACKET ASSY
	405	YQ20793	WORM BRACKET
	406	SPSH1740Z	SCREW,X3
	407	YQ31783	WHEEL GEAR
	408	YQ43627	MIDDLE GEAR
	409	YQ43849A-1	CANCEL LEVER ASSY
	410	PQM30017-27	SLIT WASHER,X2
	411	YQ20827	CONTROL CAM
	412	PQM30017-25	SLIT WASHER
	413	YQ43630A-2	LOADING GEAR(T) ASSY
	414	PQM30017-27	SLIT WASHER
	415	YQ43632A-1	LOADING GEAR(S)ASSY
	416	PQM30017-27	SLIT WASHER
	417	YQ43634	COVER PLATE
	418	YQ43635A-2	LOADING RING ASSY
	419	SPSH1740Z	SCREW,X4
	420	YQ10516-1-2	GUIDE RAIL
	421	SPSH1730M	SCREW,X8
	422	YQ43646A-4	SUPPLY POLE BASE ASSY
	423	YQ43654A-4	TAKE-UP POLE BASE ASSY
	424	YQ43659A-1	DRIVE LEVER ASSY
	425	YQ43663B-4	SLANT ARM ASSY
	425A	YQ43670	TOR.SPRING(S)
	426	PQM30017-27	SLIT WASHER
	427	YQ43815A-2	ROLLER BASE ASSY
	428	SPSH1730M	SCREW
	429	YQ43678A	LINK LEVER ASSY
	430	YQ43682A-3	LINK ARM ASSY
	431	PQM30017-25	SLIT WASHER
	432	YQ43691A-2	PINCH ROLLER ARM ASSY
	433	PQM30017-25	SLIT WASHER
	434	YQ43698A-2	TAKE-UP GUIDE ARM ASSY
	435	PQM30017-27	SLIT WASHER
	436	YQ43844A-5	TENSION ARM ASSY
	436A	YQ43848	TENSION SPRING
	437	PQM30017-27	SLIT WASHER
	438	YQ20797-1-1	MOTOR BASE
	439	SPSH1740Z	SCREW,X2
	440	SSSH1730M	SCREW
⚠	441	YU42048-1-1	CAPSTAN MOTOR
	442	SPSN1755M	SCREW,X3
	443	YQ43708A-2	SLANT POLE BASE ASSY
	444	SPSN1755M	SCREW
	445	YQ43710	TIMING BELT
	446	YQ43711A-2	CENTER PULLEY UNIT
	447	SPSH1730M	SCREW,X2
	448	YQ43729A	SUPPLY CLUCH ASSY
	449	PQM30017-27	SLIT WASHER
	450	YQ31861	REEL DISK
	451	Q03093-835	WASHER
	452	YQ31787	TAKE-UP GEAR
	453	YQ43737	BRAKE SUB GEAR
	454	PQM30017-27	SLIT WASHER,X3
	455	YQ43738A-1	A/C HEAD UNIT
	456	SPSN1750Z	SCREW,X2
	457	YQ43743A-1	EJECT LEVER ASSY
	458	PQM30017-27	SLIT WASHER
	459	YQ31833-1-1	LED GUIDE
	460	SPSH1730M	SCREW
	461	YQ43818	DRUM SPACER
	462	SPSH1740Z	SCREW,X2
	465	YMA0016A	MECHA(A) ASSY
	466	YU42051	BRUSH
	467	SPSH1720M	SCREW
	468	YDV2065A	DRUM ASSY
	468A	YDM2067D	UPPER DRUM ASSY
	468B	YDM4031	SCREW,X2
	468C	YDM2083A	LOWER DRUM ASSY
	468D	YDM1003-1-2	CHATCHER
	468E	SPSH1730M	SCREW,X2
	468F	YDM2080	OUT PUT FPC
	469	SPSH1740Z	SCREW,X4
	471	YQ43779	SIDE BRAKET,X2
	472	SPSH1720M	SCREW,X2

5.4 MONITOR ASSEMBLY <M4>


501
501A
501B
501C
513
513
513
515
519
517
512
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518
510
a
503
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504
503B
521
505
503A
a
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MONITOR
<07>
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514
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502C
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507

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION
********************************			
		MONITOR ASSEMBLY <M4>	
⚠	501	YQ20806H	UPPER CASE ASSY
	501A	YQ43787	PLATE(SHIELD)
	501B	YQM30032-44	SPECIAL SCREW,M2X4
	501C	YQ43788	SHEET(SHIELD)
⚠	502	YQ20807B-5	LOWER CASE ASSY
	502C	YQM30029-181	SPACER
	503	YQ31739A-1	SHAFT ASSY
	503A	YQ43560	BRACKET
	503B	REE2500	E.RING
	504	YQ31740-1-1	HOLDER(FPC)
	505	SSSH1430Z	SCREW
	506	YQM30032-37	SPECIAL SCREW,X2
	507	YQM30052-8	SCREW,X5
	508	YQM30032-6-2	SPECIAL SCREW,X4
	509	YQ20787	HOLDER(LCD)
	510	YQ31826	PLATE(EARTH)
	511	SPSJ2040Z	SCREW
	512	YQM30029-180	SPACER
	513	YQM30032-6-2	SPECIAL SCREW,X3
	514	SPSJ2040Z	SCREW,X2
	515	PEDP0159	LCD PANEL
	516	PEWR0751	FPC
	517	PEDP0162	BACK LIGHT ASSY
	518	PEDP0163	LAMP
	519	PEDP0164	REFLECTOR
	520	PEWR0750-01-01	FPC
	521	PESW0605-02-R	PUSH SWITCH

5.5 ELECTRICAL PARTS LIST

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MAIN BOARD ASSEMBLY <01>

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	PWBA1	YB10125B1	MAIN BOARD ASSY
	IC101	M37770M4H146HP	IC
	IC102	TA75S01F	IC
	IC103	BU4551BF	IC
	IC104	BU4584BF	IC
		or XRU4584BF	IC
	IC105	M35040-001FP-X	IC
	IC106	BR93LC46AF	IC
		or XLJ93LC46AF-XE	IC
	IC107	BA6289F	IC
	IC108	BA6417F	IC
	IC109	TC7W04F	IC
	IC110	S-80750AL-EE-X	IC
	IC111	S-80726AN-DP-X	IC
	IC112	RH5RE50AA-XE	IC
	IC301	VC5035-XE	IC
	IC351	BA6862FS	IC
	IC401	BA7751AFS	IC
	IC402	XRA15218F	IC
	IC403	NJM2233BM	IC
	IC502	M52364FP	IC
	IC601	M52359FP	IC
	IC602	AN3396S	IC
	IC721	MB3785APFV	IC
	IC801	AN2145NFHP	IC
	IC802	MN3861SA	IC
	IC803	MB88345PF	IC
	IC804	EHDGA1489	IC
	IC805	XRA10324AFV-XE	IC
	IC806	AN2458SH	IC
	IC807	TA75W558FU	IC
	IC808	TA75W558FU	IC
	IC809	XRA10324AFV-XE	IC
	IC810	TA75W558FU	IC
	IC811	TA75W01FU	IC
	Q101	DTA114EU	TRANSISTOR
	Q102	DTC123YU	TRANSISTOR
	Q103	2SA1577(RS)	TRANSISTOR
	Q104	DTC114EU	TRANSISTOR
	Q105	DTC114EU	TRANSISTOR
	Q106	DTC114EU	TRANSISTOR
	Q107	DTA114EU	TRANSISTOR
	Q108	DTC114EU	TRANSISTOR
	Q201	2SC4617(RS)	TRANSISTOR
	Q202	DTA114EE	TRANSISTOR
		or RN2102	TRANSISTOR
		or UN9111	TRANSISTOR
	Q203	DTC144EE	TRANSISTOR
		or RN1104	TRANSISTOR
		or UN9213	TRANSISTOR
	Q351	MDC02	TRANSISTOR
	Q401	2SC4097(QR)	TRANSISTOR
	Q402	DTA143EE	TRANSISTOR
	Q403	DTA123EE	TRANSISTOR
	Q404	DTA123EE	TRANSISTOR
	Q405	FMW3	TRANSISTOR
	Q406	DTC144EE	TRANSISTOR
		or RN1104	TRANSISTOR
		or UN9213	TRANSISTOR
	Q407	DTC144EE	TRANSISTOR
		or RN1104	TRANSISTOR
		or UN9213	TRANSISTOR
	Q408	DTC144EE	TRANSISTOR
		or RN1104	TRANSISTOR
		or UN9213	TRANSISTOR
	Q502	DTC144EE	TRANSISTOR
		or RN1104	TRANSISTOR
		or UN9213	TRANSISTOR
	Q511	2SC4617(QRS)	TRANSISTOR
	Q512	DTC144EE	TRANSISTOR
		or RN1104	TRANSISTOR
		or UN9213	TRANSISTOR
	Q513	DTC144EE	TRANSISTOR
		or RN1104	TRANSISTOR
		or UN9213	TRANSISTOR
	Q514	DTC144EE	TRANSISTOR
		or RN1104	TRANSISTOR
		or UN9213	TRANSISTOR
	Q601	2SD2114K(UV)	TRANSISTOR
	Q602	2SD2114K(UV)	TRANSISTOR
	Q603	2SD2114K(UV)	TRANSISTOR
	Q604	2SD2114K(UV)	TRANSISTOR
	Q606	2SC4617(QRS)	TRANSISTOR
	Q607	DTA143EE	TRANSISTOR
⚠	Q701	DTA143EE	TRANSISTOR
	Q702	2SC4081(R)	TRANSISTOR
	Q703	2SC4081(R)	TRANSISTOR
	Q704	2SC4081(R)	TRANSISTOR
	Q721	2SB1121(TU)	TRANSISTOR
	Q722	2SA1774(QRS)	TRANSISTOR
	Q723	2SB1302(ST)	TRANSISTOR
	Q724	2SB1302(ST)	TRANSISTOR
	Q725	2SB1302(ST)	TRANSISTOR
	Q726	DTC143EE	TRANSISTOR
		or RN1101	TRANSISTOR
		or UN921L	TRANSISTOR
	Q727	2SB1302(ST)	TRANSISTOR
	Q728	DTC143EE	TRANSISTOR
		or RN1101	TRANSISTOR
		or UN921L	TRANSISTOR
	Q729	2SB1302(ST)	TRANSISTOR
	Q730	DTC143EE	TRANSISTOR
		or RN1101	TRANSISTOR
		or UN921L	TRANSISTOR
	Q732	DTC143EE	TRANSISTOR
		or RN1101	TRANSISTOR
		or UN921L	TRANSISTOR
	Q734	DTC144EE	TRANSISTOR
		or RN1104	TRANSISTOR
		or UN9213	TRANSISTOR
	Q735	2SB1295(67)	TRANSISTOR
	Q736	DTC143EE	TRANSISTOR
		or RN1101	TRANSISTOR
		or UN921L	TRANSISTOR
	Q801	2SA1774(QR)	TRANSISTOR
		or 2SA1790	TRANSISTOR
	Q802	2SC4617(QR)	TRANSISTOR
		or 2SC4655	TRANSISTOR
	Q804	2SA1774(QR)	TRANSISTOR
		or 2SA1790	TRANSISTOR

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
Q805	2SA1774(QR)	TRANSISTOR	
	or 2SA1790	TRANSISTOR	
Q806	2SC4617(QR)	TRANSISTOR	
	or 2SC4655	TRANSISTOR	
Q807	2SC4617(QR)	TRANSISTOR	
	or 2SC4655	TRANSISTOR	
Q808	2SA1774(QR)	TRANSISTOR	
	or 2SA1790	TRANSISTOR	
Q812	XP1B301	TRANSISTOR	
Q814	2SC4617(QR)	TRANSISTOR	
	or 2SC4655	TRANSISTOR	
Q815	2SC4617(QR)	TRANSISTOR	
Q816	2SA1774(QR)	TRANSISTOR	
Q817	2SC4617(QR)	TRANSISTOR	
Q818	2SA1774(QR)	TRANSISTOR	
Q819	2SC4617(QR)	TRANSISTOR	
Q820	2SA1774(QR)	TRANSISTOR	
Q821	2SC4617(QR)	TRANSISTOR	
	or 2SC4655	TRANSISTOR	
Q824	DTC144EE	TRANSISTOR	
Q825	PH110	PH TRANSISTOR	
D102	MA8047	DIODE	
D104	1SS355	DIODE	
D105	1SS355	DIODE	
D106	SML-020MLT-X	LE DIODE	
D107	1SS355	DIODE	
D108	1SS355	DIODE	
D109	RB450F	SB DIODE	
D301	MA132WK	DIODE	
D502	MA133	DIODE	
D721	MA132WK	DIODE	
D722	MA132WK	DIODE	
D723	MA8082(H)	ZENER DIODE	
D724	MA736	SB DIODE	
D725	MA736	SB DIODE	
D802	1SS355	DIODE	
DA101	DAP202U	DIODE	
DA102	DAP202U	DIODE	
DA105	DAP202U	DIODE	
R102	NRSA63J-473N	RESISTOR	47kΩ,1/16W
R103	NRSA63J-221N	RESISTOR	220Ω,1/16W
R104	NRSA63J-105N	RESISTOR	1MΩ,1/16W
R105	NRSA63J-104N	RESISTOR	100kΩ,1/16W
R106	NRSA63J-335N	RESISTOR	3.3MΩ,1/16W
R107	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R109	NRSA63J-223N	RESISTOR	22kΩ,1/16W
R110	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R111	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R112	NRSA63J-473N	RESISTOR	47kΩ,1/16W
R113	NRSA63J-221N	RESISTOR	220Ω,1/16W
R114	NRSA63J-105N	RESISTOR	1MΩ,1/16W
R115	NRSA63J-124N	RESISTOR	120kΩ,1/16W
R116	NRSA63J-221N	RESISTOR	220Ω,1/16W
R117	NRSA63J-333N	RESISTOR	33kΩ,1/16W
R118	NRSA63J-473N	RESISTOR	47kΩ,1/16W
R120	NRSA63J-221N	RESISTOR	220Ω,1/16W
R121	NRSA63J-221N	RESISTOR	220Ω,1/16W
R122	NRSA63J-221N	RESISTOR	220Ω,1/16W
R123	NRSA63J-333N	RESISTOR	33kΩ,1/16W
R124	NRSA63J-473N	RESISTOR	47kΩ,1/16W
R125	NRSA63J-183N	RESISTOR	18kΩ,1/16W
R126	NRSA63J-393N	RESISTOR	39kΩ,1/16W
R127	NRSA63J-153N	RESISTOR	15kΩ,1/16W
R128	NRSA63J-683N	RESISTOR	68kΩ,1/16W
R129	NRSA63J-821N	RESISTOR	820Ω,1/16W
R130	NRSA63J-562N	RESISTOR	5.6kΩ,1/16W
R131	QRSA08J-820YN	RESISTOR	82Ω,1/10W
R132	NRSA63J-302N	RESISTOR	3kΩ,1/16W
R133	NRSA63J-821N	RESISTOR	820Ω,1/16W
R134	NRSA63J-331N	RESISTOR	330Ω,1/16W
R135	NRSA63J-122N	RESISTOR	1.2kΩ,1/16W
R138	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R139	NRSA63J-473N	RESISTOR	47kΩ,1/16W
R140	NRSA63J-331N	RESISTOR	330Ω,1/16W
R142	NRSA63J-472N	RESISTOR	4.7kΩ,1/16W
R143	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R144	NRSA63J-563N	RESISTOR	56kΩ,1/16W
R145	NRSA63J-563N	RESISTOR	56kΩ,1/16W
R146	NRVA63D-333N	MF RESISTOR	33kΩ,1/16W
R147	NRSA63J-272N	RESISTOR	2.7kΩ,1/16W
R148	NRVA63D-393N	RESISTOR	39kΩ,1/16W
R149	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R150	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R151	NRSA63J-473N	RESISTOR	47kΩ,1/16W
R153	NRSA63J-335N	RESISTOR	3.3MΩ,1/16W
R154	NRSA63J-224N	RESISTOR	220kΩ,1/16W
R156	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R158	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R159	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R160	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R161	NRSA63J-561N	RESISTOR	560Ω,1/16W
R201	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R202	NRSA63J-273N	RESISTOR	27kΩ,1/16W
R203	NRSA63J-331N	RESISTOR	330Ω,1/16W
R204	NRSA63J-332N	RESISTOR	3.3kΩ,1/16W
R205	NRSA63J-332N	RESISTOR	3.3kΩ,1/16W
R206	NRSA63J-222N	RESISTOR	2.2kΩ,1/16W
R207	NRSA63J-222N	RESISTOR	2.2kΩ,1/16W
R208	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R210	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R211	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R301	NRSA63J-2R2N	RESISTOR	2.2Ω,1/16W
R302	NRSA63J-2R2N	RESISTOR	2.2Ω,1/16W
R303	NRSA63J-2R2N	RESISTOR	2.2Ω,1/16W
R304	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R305	NRSA63J-121N	RESISTOR	120Ω,1/16W
R306	NRSA63J-393N	RESISTOR	39kΩ,1/16W
R308	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R309	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R310	NRSA63J-154N	RESISTOR	150kΩ,1/16W
R311	NRSA63J-153N	RESISTOR	15kΩ,1/16W
R312	NRSA63J-333N	RESISTOR	33kΩ,1/16W
R313	NRSA63J-473N	RESISTOR	47kΩ,1/16W
R314	YU41353-R68N	RESISTOR	0.68Ω,1/2W
R351	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R352	NRSA63J-474N	RESISTOR	470kΩ,1/16W
R353	NRSA63J-154N	RESISTOR	150kΩ,1/16W
R354	NRSA63J-104N	RESISTOR	100kΩ,1/16W
R355	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R356	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R357	NRSA63J-104N	RESISTOR	100kΩ,1/16W
R358	NRSA63J-153N	RESISTOR	15kΩ,1/16W
R359	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R360	NRSA63J-102N	RESISTOR	1kΩ,1/16W

#△ REF No.	PART No.	PART NAME, DESCRIPTION	
R361	YU41353-R68N	RESISTOR	0.68Ω,1/2W
R362	NRSA63J-104N	RESISTOR	100kΩ,1/16W
R401	NRSA63J-153N	RESISTOR	15kΩ,1/16W
R402	NRSA63J-3R3N	RESISTOR	3.3Ω,1/16W
R403	NRVA63D-152N	MF RESISTOR	1.5kΩ,1/16W
R404	NRVA63D-272N	MF RESISTOR	2.7kΩ,1/16W
R405	NRVA63D-392N	MF RESISTOR	3.9kΩ,1/16W
R406	NRSA63J-820N	RESISTOR	82Ω,1/16W
R407	NRSA63J-820N	RESISTOR	82Ω,1/16W
R408	NRSA63J-820N	RESISTOR	82Ω,1/16W
R409	NRSA63J-153N	RESISTOR	15kΩ,1/16W
R411	NRSA63J-100N	RESISTOR	10Ω,1/16W
R412	NRVA63D-103N	MF RESISTOR	10kΩ,1/16W
R413	NRSA63J-101N	RESISTOR	100Ω,1/16W
R414	NRSA63J-472N	RESISTOR	4.7kΩ,1/16W
R415	NRSA63J-272N	RESISTOR	2.7kΩ,1/16W
R416	NRVA63D-132N	MF RESISTOR	1.3kΩ,1/16W
R417	NRVA63D-222N	MF RESISTOR	2.2kΩ,1/16W
R418	NRSA63J-102N	MF RESISTOR	1kΩ,1/16W
R419	NRVA63D-104N	MF RESISTOR	100kΩ,1/16W
R420	NRVA63D-822N	MF RESISTOR	8.2kΩ,1/16W
R421	NRSA63J-470N	RESISTOR	47Ω,1/16W
R422	NRSA63J-823N	RESISTOR	82kΩ,1/16W
R423	NRSA63J-561N	RESISTOR	560Ω,1/16W
R424	NRSA63J-334N	RESISTOR	330kΩ,1/16W
R425	NRSA63J-822N	RESISTOR	8.2kΩ,1/16W
R426	NRSA63J-562N	RESISTOR	5.6kΩ,1/16W
R427	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R428	NRVA63D-392N	MF RESISTOR	3.9kΩ,1/16W
R429	NRVA63D-222N	MF RESISTOR	2.2kΩ,1/16W
R430	NRVA63D-152N	MF RESISTOR	1.5kΩ,1/16W
R431	NRVA63D-302N	MF RESISTOR	3kΩ,1/16W
R433	NRSA63J-155N	RESISTOR	1.5MΩ,1/16W
R434	NRSA63J-682N	RESISTOR	6.8kΩ,1/16W
R435	NRSA63J-223N	RESISTOR	22kΩ,1/16W
R436	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R437	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R438	NRSA63J-101N	RESISTOR	100Ω,1/16W
R439	NRSA63J-472N	RESISTOR	4.7kΩ,1/16W
R440	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R441	NRSA63J-561N	RESISTOR	560Ω,1/16W
R442	NRSA63J-104N	RESISTOR	100kΩ,1/16W
R443	NRVA63D-681N	MF RESISTOR	680Ω,1/16W
R444	NRVA63D-472N	MF RESISTOR	4.7kΩ,1/16W
R446	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R448	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R457	NRVA63D-473N	MF RESISTOR	47kΩ,1/16W
R458	NRVA63D-561N	MF RESISTOR	560Ω,1/16W
R459	NRSA63J-330N	RESISTOR	33Ω,1/16W
R460	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R461	NRSA63J-101N	RESISTOR	100Ω,1/16W
R462	NRSA63J-154N	RESISTOR	150kΩ,1/16W
R464	NRSA63J-750N	RESISTOR	75Ω,1/16W
R465	NRSA63J-750N	RESISTOR	75Ω,1/16W
R466	NRSA63J-750N	RESISTOR	75Ω,1/16W
R501	NRSA63J-122N	RESISTOR	1.2kΩ,1/16W
R503	NRSA63J-271N	RESISTOR	270Ω,1/16W
R504	NRSA63J-153N	RESISTOR	15kΩ,1/16W
R505	NRSA63J-621N	RESISTOR	620Ω,1/16W
R507	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R510	NRSA63J-473N	RESISTOR	47kΩ,1/16W
R511	NRSA63J-153N	RESISTOR	15kΩ,1/16W
R512	NRSA63J-334N	RESISTOR	330kΩ,1/16W
R513	NRSA63J-474N	RESISTOR	470kΩ,1/16W
R519	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R520	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R521	NRSA63J-681N	RESISTOR	680Ω,1/16W
R522	NRSA63J-561N	RESISTOR	560Ω,1/16W
R523	NRSA63J-562N	RESISTOR	5.6kΩ,1/16W
R524	NRSA63J-562N	RESISTOR	5.6kΩ,1/16W
R525	NRSA63J-332N	RESISTOR	3.3kΩ,1/16W
R526	NRSA63J-332N	RESISTOR	3.3kΩ,1/16W
R527	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R528	NRSA63J-123N	RESISTOR	12kΩ,1/16W
R529	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R530	NRSA63J-123N	RESISTOR	12kΩ,1/16W
R531	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R532	NRSA63J-132N	RESISTOR	1.3kΩ,1/16W
R533	NRSA63J-822N	RESISTOR	8.2kΩ,1/16W
R534	NRSA63J-912N	RESISTOR	9.1kΩ,1/16W
R535	NRSA63J-153N	RESISTOR	15kΩ,1/16W
R536	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R537	NRSA63J-561N	RESISTOR	560Ω,1/16W
R538	NRSA63J-561N	RESISTOR	560Ω,1/16W
R539	NRSA63J-182N	RESISTOR	1.8kΩ,1/16W
R541	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R543	NRSA63J-203N	RESISTOR	20kΩ,1/16W
R544	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R601	NRSA63J-331N	RESISTOR	330Ω,1/16W
R602	NRSA63J-431N	RESISTOR	430Ω,1/16W
R603	NRSA63J-511N	RESISTOR	510Ω,1/16W
R604	NRSA63J-331N	RESISTOR	330Ω,1/16W
R605	NRSA63J-431N	RESISTOR	430Ω,1/16W
R606	NRSA63J-331N	RESISTOR	330Ω,1/16W
R608	NRSA63J-472N	RESISTOR	4.7kΩ,1/16W
R609	NRSA63J-331N	RESISTOR	330Ω,1/16W
R610	NRSA63J-431N	RESISTOR	430Ω,1/16W
R611	NRVA62D-914N	RESISTOR	910kΩ,1/16W
R612	NRSA63J-332N	RESISTOR	3.3kΩ,1/16W
R617	NRSA63J-223N	RESISTOR	22kΩ,1/16W
R619	NRSA63J-513N	RESISTOR	51kΩ,1/16W
R620	NRSA63J-513N	RESISTOR	51kΩ,1/16W
R621	NRSA63J-513N	RESISTOR	51kΩ,1/16W
R623	NRSA63J-101N	RESISTOR	100Ω,1/16W
R624	NRSA63J-222N	RESISTOR	2.2kΩ,1/16W
R629	NRSA63J-513N	RESISTOR	51kΩ,1/16W
R630	NRSA63J-222N	RESISTOR	2.2kΩ,1/16W
R631	NRSA63J-682N	RESISTOR	6.8kΩ,1/16W
R634	NRSA63J-223N	RESISTOR	22kΩ,1/16W
R636	NRSA63J-223N	RESISTOR	22kΩ,1/16W
R637	NRSA63J-333N	RESISTOR	33kΩ,1/16W
R701	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R703	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R704	NRSA63J-153N	RESISTOR	15kΩ,1/16W
R705	NRSA63J-473N	RESISTOR	47kΩ,1/16W
R706	NRSA63J-473N	RESISTOR	47kΩ,1/16W
R707	NRSA63J-5R6N	RESISTOR	5.6Ω,1/16W
R708	NRSA63J-5R6N	RESISTOR	5.6Ω,1/16W
R721	NRSA63J-104N	RESISTOR	100kΩ,1/16W
R722	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R723	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R724	NRSA63J-154N	RESISTOR	150kΩ,1/16W
R726	NRSA63G-103N	RESISTOR	10kΩ,1/16W
R728	NRVA63D-363N	MF RESISTOR	36kΩ,1/16W

#△ REF No.	PART No.	PART NAME, DESCRIPTION	
R729	NRVA63D-123N	MF RESISTOR	12kΩ,1/16W
R730	NRSA63J-104N	RESISTOR	100kΩ,1/16W
R731	NRSA63J-223N	RESISTOR	22kΩ,1/16W
R732	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R733	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R734	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R735	NRVA63D-103N	MF RESISTOR	10kΩ,1/16W
R736	NRVA63D-202N	RESISTOR	2kΩ,1/16W
R737	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R738	NRSA63J-222N	RESISTOR	2.2kΩ,1/16W
R739	NRVA63D-472N	MF RESISTOR	4.7kΩ,1/16W
R740	NRVA63D-472N	MF RESISTOR	4.7kΩ,1/16W
R741	NRVA63D-203N	RESISTOR	20kΩ,1/16W
R742	NRVA63D-153N	MF RESISTOR	15kΩ,1/16W
R743	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R744	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R745	NRSA63J-561N	RESISTOR	560Ω,1/16W
R746	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R747	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R748	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R749	NRSA63J-471N	RESISTOR	470Ω,1/16W
R750	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R751	NRSA63J-122N	RESISTOR	1.2kΩ,1/16W
R753	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R754	QRS188J-102YN	RESISTOR	1kΩ,1/8W
R801	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R802	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R803	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R804	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R805	NRSA63J-152N	RESISTOR	1.5kΩ,1/16W
R806	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R807	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R808	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R809	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R810	NRSA63J-222N	RESISTOR	2.2kΩ,1/16W
R811	NRSA63J-222N	RESISTOR	2.2kΩ,1/16W
R812	NRSA63J-472N	RESISTOR	4.7kΩ,1/16W
R813	NRSA63J-472N	RESISTOR	4.7kΩ,1/16W
R814	NRSA63J-474N	RESISTOR	470kΩ,1/16W
R815	NRSA63J-472N	RESISTOR	4.7kΩ,1/16W
R816	NRSA63J-472N	RESISTOR	4.7kΩ,1/16W
R817	NRSA63J-332N	RESISTOR	3.3kΩ,1/16W
R818	NRSA63J-155N	RESISTOR	1.5MΩ,1/16W
R819	NRSA63J-332N	RESISTOR	3.3kΩ,1/16W
R820	NRSA63J-225N	RESISTOR	2.2MΩ,1/16W
R822	NRSA63J-152N	RESISTOR	1.5kΩ,1/16W
R823	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R824	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R826	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R829	NRSA63J-472N	RESISTOR	4.7kΩ,1/16W
R830	NRSA63J-222N	RESISTOR	2.2kΩ,1/16W
R831	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R833	NRSA63J-683N	RESISTOR	68kΩ,1/16W
R834	NRSA63J-683N	RESISTOR	68kΩ,1/16W
R835	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R836	NRSA63J-203N	RESISTOR	20kΩ,1/16W
R837	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R838	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R839	NRSA63J-183N	RESISTOR	18kΩ,1/16W
R840	NRSA63J-183N	RESISTOR	18kΩ,1/16W
R841	NRSA63J-154N	RESISTOR	150kΩ,1/16W
R842	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R843	NRSA63J-473N	RESISTOR	47kΩ,1/16W
R844	NRSA63J-471N	RESISTOR	470Ω,1/16W
R845	NRSA63J-471N	RESISTOR	470Ω,1/16W
R846	NRSA63J-392N	RESISTOR	3.9kΩ,1/16W
R847	NRSA63J-242N	RESISTOR	2.4kΩ,1/16W
R848	NRSA63J-682N	RESISTOR	6.8kΩ,1/16W
R849	NRSA63J-153N	RESISTOR	15kΩ,1/16W
R850	NRSA63J-561N	RESISTOR	560Ω,1/16W
R851	NRSA63J-682N	RESISTOR	6.8kΩ,1/16W
R854	NRSA63J-822N	RESISTOR	8.2kΩ,1/16W
R855	NRSA63J-752N	RESISTOR	7.5kΩ,1/16W
R856	NRSA63J-303N	RESISTOR	30kΩ,1/16W
R857	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R858	NRSA63J-183N	RESISTOR	18kΩ,1/16W
R860	NRSA63J-823N	RESISTOR	82kΩ,1/16W
R861	NRSA63J-124N	RESISTOR	120kΩ,1/16W
R862	NRSA63J-203N	RESISTOR	20kΩ,1/16W
R863	NRSA63J-203N	RESISTOR	20kΩ,1/16W
R864	NRSA63J-682N	RESISTOR	6.8kΩ,1/16W
R865	NRSA63J-682N	RESISTOR	6.8kΩ,1/16W
R866	NRSA63J-122N	RESISTOR	1.2kΩ,1/16W
R867	NRSA63J-122N	RESISTOR	1.2kΩ,1/16W
R868	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R869	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R870	NRSA63J-682N	RESISTOR	6.8kΩ,1/16W
R871	NRSA63J-683N	RESISTOR	68kΩ,1/16W
R872	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R873	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R874	NRSA63J-822N	RESISTOR	8.2kΩ,1/16W
R875	NRSA63J-152N	RESISTOR	1.5kΩ,1/16W
R876	NRSA63J-682N	RESISTOR	6.8kΩ,1/16W
R877	NRSA63J-682N	RESISTOR	6.8kΩ,1/16W
R878	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R879	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R880	NRSA63J-682N	RESISTOR	6.8kΩ,1/16W
R881	NRSA63J-683N	RESISTOR	68kΩ,1/16W
R882	NRSA63J-222N	RESISTOR	2.2kΩ,1/16W
R883	NRSA63J-222N	RESISTOR	2.2kΩ,1/16W
R884	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R885	NRSA63J-823N	RESISTOR	82kΩ,1/16W
R886	NRSA63J-823N	RESISTOR	82kΩ,1/16W
R887	NRSA63J-562N	RESISTOR	5.6kΩ,1/16W
R888	NRSA63J-562N	RESISTOR	5.6kΩ,1/16W
R889	NRSA63J-153N	RESISTOR	15kΩ,1/16W
R890	NRSA63J-153N	RESISTOR	15kΩ,1/16W
R891	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R892	NRSA63J-512N	RESISTOR	5.1kΩ,1/16W
R893	NRSA63J-683N	RESISTOR	68kΩ,1/16W
R894	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R895	NRSA63J-222N	RESISTOR	2.2kΩ,1/16W
R898	NRSA63J-122N	RESISTOR	1.2kΩ,1/16W
R899	NRSA63J-182N	RESISTOR	1.8kΩ,1/16W
R901	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R902	NRSA63J-392N	RESISTOR	3.9kΩ,1/16W
R903	NRSA63J-821N	RESISTOR	820Ω,1/16W
R904	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R905	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R907	NRSA63J-394N	RESISTOR	390kΩ,1/16W
R908	NRSA63J-222N	RESISTOR	2.2kΩ,1/16W
R909	NRSA63J-204N	RESISTOR	200kΩ,1/16W
R910	NRSA63J-824N	RESISTOR	820kΩ,1/16W
R912	NRSA63J-433N	RESISTOR	43kΩ,1/16W

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R913	NRSA63J-473N	RESISTOR	47kΩ,1/16W
R914	NRSA63J-270N	RESISTOR	27Ω,1/16W
R915	NRSA63J-471N	RESISTOR	470Ω,1/16W
R916	NRSA63J-822N	RESISTOR	8.2kΩ,1/16W
R917	NRSA63J-222N	RESISTOR	2.2kΩ,1/16W
R918	NRSA63J-473N	RESISTOR	47kΩ,1/16W
R919	NRSA63J-104N	RESISTOR	100kΩ,1/16W
R920	NRSA63J-101N	RESISTOR	100Ω,1/16W
R921	NRSA63J-203N	RESISTOR	20kΩ,1/16W
R922	NRSA63J-113N	RESISTOR	11kΩ,1/16W
R923	NRSA63J-753N	RESISTOR	75kΩ,1/16W
R924	NRSA63J-753N	RESISTOR	75kΩ,1/16W
R925	NRSA63J-184N	RESISTOR	180kΩ,1/16W
R926	NRSA63J-472N	RESISTOR	4.7kΩ,1/16W
R927	NRSA63J-682N	RESISTOR	6.8kΩ,1/16W
R928	NRSA63J-154N	RESISTOR	150kΩ,1/16W
R929	NRSA63J-123N	RESISTOR	12kΩ,1/16W
R930	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R931	NRSA63J-125N	RESISTOR	1.2MΩ,1/16W
R932	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R933	NRSA63J-222N	RESISTOR	2.2kΩ,1/16W
R934	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R935	NRSA63J-394N	RESISTOR	390kΩ,1/16W
R936	NRSA63J-472N	RESISTOR	4.7kΩ,1/16W
R940	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R941	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R942	NRSA63J-222N	RESISTOR	2.2kΩ,1/16W
R943	NRSA63J-393N	RESISTOR	39kΩ,1/16W
R945	NRSA63J-472N	RESISTOR	4.7kΩ,1/16W
R946	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R947	NRSA63J-472N	RESISTOR	4.7kΩ,1/16W
R948	NRSA63J-104N	RESISTOR	100kΩ,1/16W
RA102	PERE0560-473JY	NETWORK RESISTOR	47kΩ,1/16W
RA103	PERE0560-473JY	NETWORK RESISTOR	47kΩ,1/16W
RA104	PERE0532-221JY	NETWORK RESISTOR	220Ω,1/16W
RA105	PERE0560-221JY	NETWORK RESISTOR	220Ω,1/16W
RA106	PERE0560-221JY	NETWORK RESISTOR	220Ω,1/16W
RA108	PERE0560-473JY	NETWORK RESISTOR	47kΩ,1/16W
RA109	PERE0560-221JY	NETWORK RESISTOR	220Ω,1/16W
RA110	PERE0560-473JY	NETWORK RESISTOR	47kΩ,1/16W
RA111	PERE0532-103JY	NETWORK RESISTOR	10kΩ,1/16W
RA112	PERE0532-472JY	NETWORK RESISTOR	4.7kΩ,1/16W
RA801	PERE0532-103JY	NETWORK RESISTOR	10kΩ,1/16W
RA802	PERE0560-103JY	NETWORK RESISTOR	10kΩ,1/16W
RA803	PERE0532-472JY	NETWORK RESISTOR	4.7kΩ,1/16W
RA805	PERE0560-103JY	NETWORK RESISTOR	10kΩ,1/16W
RA806	PERE0560-103JY	NETWORK RESISTOR	10kΩ,1/16W
RA807	PERE0560-103JY	NETWORK RESISTOR	10kΩ,1/16W
RA808	PERE0532-682JY	NETWORK RESISTOR	6.8kΩ,1/16W
RA809	PERE0532-103JY	NETWORK RESISTOR	10kΩ,1/16W
RA810	PERE0532-563JY	NETWORK RESISTOR	56kΩ,1/16W
RA811	PERE0560-103JY	NETWORK RESISTOR	10kΩ,1/16W
RA812	PERE0560-102JY	NETWORK RESISTOR	1kΩ,1/16W
RA813	PERE0532-472JY	NETWORK RESISTOR	4.7kΩ,1/16W
RA814	PERE0532-103JY	NETWORK RESISTOR	10kΩ,1/16W
C101	NEA50JM-227NP	E CAPACITOR	220μF,6.3V
C102	QCYA1HK-103	CAPACITOR	0.01μF,50V
C103	NCB31EK-103A	CAPACITOR	0.01μF,25V
C104	NEA20JM-226N	E CAPACITOR	22μF,6.3V
C107	NCT06CH-120A	CAPACITOR	12pF,50V
C108	NCT06CH-150A	CAPACITOR	15pF,50V
C110	NCT06CH-220A	CAPACITOR	22pF,50V

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C111	NCT06CH-220A	CAPACITOR	22pF,50V
C113	NCB31EK-103A	CAPACITOR	0.01μF,25V
C115	NCB31HK-472A	CAPACITOR	0.0047μF,50V
C116	NCB31EK-103A	CAPACITOR	0.01μF,25V
C117	NCB31EK-103A	CAPACITOR	0.01μF,25V
C118	NCB31EK-103A	CAPACITOR	0.01μF,25V
C120	NCT06CH-270A	CAPACITOR	27pF,50V
C121	NCT06CH-270A	CAPACITOR	27pF,50V
C133	NCB31EK-103A	CAPACITOR	0.01μF,25V
C134	NCB31EK-103A	CAPACITOR	0.01μF,25V
C201	YU41415-J106AW	T CAPACITOR	10μF,6.3V
C202	NCT06CH-101A	CAPACITOR	100pF,50V
C203	QCYA1EK-104	CAPACITOR	0.1μF,25V
C204	QCYA1EK-104	CAPACITOR	0.1μF,25V
C205	NCB31CK-333A	CAPACITOR	0.033μF,16V
C206	NCB31CK-333A	CAPACITOR	0.033μF,16V
C207	NEE21CM-105RY	E CAPACITOR	1μF,16V
C208	NEE21CM-105RY	E CAPACITOR	1μF,16V
C209	NEA20JM-226N	E CAPACITOR	22μF,6.3V
C210	NEA20JM-226N	E CAPACITOR	22μF,6.3V
C211	QCYA1CK-154	CAPACITOR	0.15μF,16V
C212	NCB31CK-333A	CAPACITOR	0.033μF,16V
C214	QCYA1EK-104	CAPACITOR	0.1μF,25V
C215	QCYA1EK-104	CAPACITOR	0.1μF,25V
C301	QCF81CZ-225	CAPACITOR	2.2μF,16V
C302	QCF81CZ-225	CAPACITOR	2.2μF,16V
C303	QCF81CZ-225	CAPACITOR	2.2μF,16V
C307	NCR21CK-473A	CAPACITOR	0.047μF,16V
C308	NEA21HM-105NZ	E CAPACITOR	1μF,50V
C309	NCB31HK-681A	CAPACITOR	680pF,50V
C310	NCB31HK-332A	CAPACITOR	0.0033μF,50V
C311	NEA21HM-474NZ	E CAPACITOR	0.47μF,50V
C312	NCB31HK-331A	CAPACITOR	330pF,50V
C313	QCYA1EK-104	CAPACITOR	0.1μF,25V
C314	NEE21AM-106RY	E CAPACITOR	10μF,10V
C315	NCB31EK-103A	CAPACITOR	0.01μF,25V
C316	QCYA1EK-104	CAPACITOR	0.1μF,25V
C317	QCYA1HK-103	CAPACITOR	0.01μF,50V
C351	QCFA1EZ-224	CAPACITOR	0.22μF,25V
C352	QCFA1EZ-224	CAPACITOR	0.22μF,25V
C353	QCFA1EZ-224	CAPACITOR	0.22μF,25V
C354	NCB31EK-223A	CAPACITOR	0.022μF,25V
C355	NCB31EK-223A	CAPACITOR	0.022μF,25V
C356	NCB31EK-223A	CAPACITOR	0.022μF,25V
C357	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C358	QCYA1CK-124	CAPACITOR	0.12μF,16V
C359	QCYA1CK-124	CAPACITOR	0.12μF,16V
C360	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C362	NEA21CM-106N	E CAPACITOR	10μF,16V
C363	NEA21EM-475NZ	E CAPACITOR	4.7μF,25V
C401	YU41970-A226XW	T CAPACITOR	22μF,10V
C402	NCB31HK-822A	CAPACITOR	0.0082μF,50V
C403	NCS31HJ-561A	CAPACITOR	560pF,50V
C404	NFV41HJ-273AY	F CAPACITOR	0.027μF,50V
C405	NCT06CH-331A	CAPACITOR	330pF,50V
C406	NEA20JM-226N	E CAPACITOR	22μF,6.3V
C407	NEA20JM-226N	E CAPACITOR	22μF,6.3V
C409	QCF81CZ-105	CAPACITOR	1μF,16V
C410	NCB31HK-152A	CAPACITOR	0.0015μF,50V
C411	NCB31HK-152A	CAPACITOR	0.0015μF,50V
C412	NCB31HK-152A	CAPACITOR	0.0015μF,50V
C413	NEE21CM-105RY	E CAPACITOR	1μF,16V

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C414	NCB31HK-681A	CAPACITOR	680pF,50V
C415	NCB31HK-272A	CAPACITOR	0.0027μF,50V
C416	NEE21AM-335RY	E CAPACITOR	3.3μF,10V
C418	NCB31EK-123A	CAPACITOR	0.012μF,25V
C419	NEA20JM-226N	E CAPACITOR	22μF,6.3V
C420	QCYA1EK-104	CAPACITOR	0.1μF,25V
C422	QCYA1EK-563	CAPACITOR	0.056μF,25V
C423	NCB31HK-332A	CAPACITOR	0.0033μF,50V
C424	NEA20GM-476NZ	E CAPACITOR	47μF,4.0V
C425	NEA20GM-476NZ	E CAPACITOR	47μF,4.0V
C427	NEE20GM-475RY	E CAPACITOR	4.7μF,4.0V
C428	YU42058-H476Z	E CAPACITOR	47μF,5.5V
C431	YU42058-H476Z	E CAPACITOR	47μF,5.5V
C433	NEE21CM-105RY	E CAPACITOR	1μF,16V
C434	QCYA1EK-223	CAPACITOR	0.022μF,25V
C436	NEE21CM-105RY	E CAPACITOR	1μF,16V
C437	NCB31HK-682A	CAPACITOR	0.0068μF,50V
C442	NEE21CM-105RY	E CAPACITOR	1μF,16V
C443	NEE21CM-105RY	E CAPACITOR	1μF,16V
C444	NEA21EM-475NZ	E CAPACITOR	4.7μF,25V
C446	NCS31HJ-200A	CAPACITOR	20pF,50V
C506	NEH30JM-107NP	E CAPACITOR	100μF,6.3V
C509	YU41415-J106AW	T CAPACITOR	10μF,6.3V
C510	NCS31HJ-221A	CAPACITOR	220pF,50V
C512	NCB31EK-153A	CAPACITOR	0.015μF,25V
C515	QCFA1EZ-333	CAPACITOR	0.033μF,25V
C516	QCYA1EK-104	CAPACITOR	0.1μF,25V
C517	NCS31HJ-390A	CAPACITOR	39pF,50V
C518	NEE21CM-105RY	E CAPACITOR	1μF,16V
C519	NEE20GM-475RY	E CAPACITOR	4.7μF,4.0V
C520	NEE21CM-105RY	E CAPACITOR	1μF,16V
C521	NCB31HK-821A	CAPACITOR	820pF,50V
C522	NCS31HJ-120A	CAPACITOR	12pF,50V
C523	NCF31HZ-103A	CAPACITOR	0.01μF,50V
C526	NCF31HZ-103A	CAPACITOR	0.01μF,50V
C527	NCF31HZ-103A	CAPACITOR	0.01μF,50V
C528	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C529	NCS31HJ-470A	CAPACITOR	47pF,50V
C531	NCB31EK-103A	CAPACITOR	0.01μF,25V
C532	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
C533	NEE20GM-106RY	E CAPACITOR	10μF,4.0V
C534	YU41415-J106AW	T CAPACITOR	10μF,6.3V
C535	NCS31HJ-181A	CAPACITOR	180pF,50V
C601	YU42058-H476Z	E CAPACITOR	47μF,5.5V
C602	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C603	NCB31EK-103A	CAPACITOR	0.01μF,25V
C604	NCS31HJ-120A	CAPACITOR	12pF,50V
C605	QCYA1EK-104	CAPACITOR	0.1μF,25V
C607	NCB31EK-103A	CAPACITOR	0.01μF,25V
C608	NCB31EK-103A	CAPACITOR	0.01μF,25V
C609	QCYA1EK-104	CAPACITOR	0.1μF,25V
C610	NCS31HJ-100A	CAPACITOR	10pF,50V
C612	NCB31EK-103A	CAPACITOR	0.01μF,25V
C613	NCB31EK-103A	CAPACITOR	0.01μF,25V
C614	QCYA1EK-104	CAPACITOR	0.1μF,25V
C616	NCS31HJ-180A	CAPACITOR	18pF,50V
C617	NCB31EK-103A	CAPACITOR	0.01μF,25V
C618	NCS31HJ-181A	CAPACITOR	180pF,50V
C619	NCB31HK-102A	CAPACITOR	0.001μF,50V
C621	NCF31HZ-103A	CAPACITOR	0.01μF,50V
C622	NCF31HZ-103A	CAPACITOR	0.01μF,50V
C623	NCF31HZ-103A	CAPACITOR	0.01μF,50V
C624	QCF81CZ-105	CAPACITOR	1μF,16V
C625	NCB31EK-103A	CAPACITOR	0.01μF,25V
C626	NCT06CH-270A	CAPACITOR	27pF,50V
C627	QCYA1EK-104	CAPACITOR	0.1μF,25V
C629	NCB31EK-103A	CAPACITOR	0.01μF,25V
C631	QCYA1EK-104	CAPACITOR	0.1μF,25V
C632	NCS31HJ-101A	CAPACITOR	100pF,50V
C634	NCB31HK-102A	CAPACITOR	0.001μF,50V
C637	NCB31HK-682A	CAPACITOR	0.0068μF,50V
C638	NCT06CH-5R0A	CAPACITOR	5pF,50V
C641	NCB31EK-103A	CAPACITOR	0.01μF,25V
C642	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C643	NCB31EK-103A	CAPACITOR	0.01μF,25V
C644	NCB31EK-103A	CAPACITOR	0.01μF,25V
C645	NCB31EK-223A	CAPACITOR	0.022μF,25V
C701	QCTA1CH-5R0	CAPACITOR	5pF,16V
C702	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C703	QCTA1CH-181	CAPACITOR	180pF,16V
C704	QCTA1CH-181	CAPACITOR	180pF,16V
C705	QCTA1CH-271	CAPACITOR	270pF,16V
C706	QCTA1CH-681	CAPACITOR	680pF,16V
C721	NCB31HK-102A	CAPACITOR	0.001μF,50V
C722	NCB31HK-102A	CAPACITOR	0.001μF,50V
C723	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C724	NCB31HK-222A	CAPACITOR	0.0022μF,50V
C725	NCB31EK-103A	CAPACITOR	0.01μF,25V
C726	QCYA1CK-224	CAPACITOR	0.22μF,16V
C727	QCTA1CH-151	CAPACITOR	150pF,16V
C728	QCYA1EK-104	CAPACITOR	0.1μF,25V
C729	QCYA1EK-104	CAPACITOR	0.1μF,25V
C730	NCB31CK-473A	CAPACITOR	0.047μF,16V
C731	NCF31HZ-103A	CAPACITOR	0.01μF,50V
C732	NCB31HK-102A	CAPACITOR	0.001μF,50V
C733	NCB31HK-471A	CAPACITOR	470pF,50V
C734	NCB31HK-471A	CAPACITOR	470pF,50V
C735	NCB31HK-471A	CAPACITOR	470pF,50V
C736	QCY81CK-105	CAPACITOR	1μF,16V
C737	QCY81CK-105	CAPACITOR	1μF,16V
C738	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C739	QCY81CK-105	CAPACITOR	1μF,16V
C740	QCY81CK-105	CAPACITOR	1μF,16V
C741	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C742	PECA0958-Y	CAPACITOR	2.2μF,10V
C743	QCY81CK-105	CAPACITOR	1μF,16V
C744	NCB31HK-221A	CAPACITOR	220pF,50V
C745	NEH31CM-226NZ	E CAPACITOR	22μF,16V
C746	QCY81CK-105	CAPACITOR	1μF,16V
C747	NEE21CM-685RY	E CAPACITOR	6.8μF,16V
C748	PECA0958-Y	CAPACITOR	2.2μF,10V
C749	NEE21CM-685RY	E CAPACITOR	6.8μF,16V
C750	PECA0958-Y	CAPACITOR	2.2μF,10V
C752	NCB31EK-103A	CAPACITOR	0.01μF,25V
C753	NCT06CH-330A	CAPACITOR	33pF,50V
C755	NEE21CM-685RY	E CAPACITOR	6.8μF,16V
C756	PECA0741-685ML	E CAPACITOR	6.8μF
C801	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C802	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C803	NCB31EK-103A	CAPACITOR	0.01μF,25V
C804	QCFA1CZ-105	CAPACITOR	1μF,16V
C805	NEA21CM-106N	E CAPACITOR	10μF,16V
C806	NEA21CM-106N	E CAPACITOR	10μF,16V
C807	NCF31CZ-104A	CAPACITOR	0.1μF,16V

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	C808	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C809	QCFA1CZ-105	CAPACITOR	1μF,16V
	C810	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C811	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C812	QCFA1CZ-105	CAPACITOR	1μF,16V
	C813	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C814	QCFA1CZ-105	CAPACITOR	1μF,16V
	C815	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C816	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C817	NEA21CM-106N	E CAPACITOR	10μF,16V
	C818	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C819	QCFA1CZ-105	CAPACITOR	1μF,16V
	C821	NEA21CM-106N	E CAPACITOR	10μF,16V
	C822	NCT07CH-270A	CAPACITOR	27pF,50V
	C823	NCT07CH-330A	CAPACITOR	33pF,50V
	C824	QCFA1CZ-105	CAPACITOR	1μF,16V
	C825	QCFA1CZ-105	CAPACITOR	1μF,16V
	C826	QCFA1CZ-105	CAPACITOR	1μF,16V
	C827	QCFA1CZ-105	CAPACITOR	1μF,16V
	C829	NEE21CM-105RY	E CAPACITOR	1μF,16V
	C830	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C831	NCT07CH-100A	CAPACITOR	10pF,50V
	C832	QCFA1CZ-105	CAPACITOR	1μF,16V
	C834	NCB31CK-473A	CAPACITOR	0.047μF,16V
	C835	NCB31CK-473A	CAPACITOR	0.047μF,16V
	C836	NCB31CK-473A	CAPACITOR	0.047μF,16V
	C837	NCT07CH-121A	CAPACITOR	120pF,50V
	C838	QCFA1CZ-105	CAPACITOR	1μF,16V
	C839	QCYA1EK-104	CAPACITOR	0.1μF,25V
	C840	QCFA1CZ-105	CAPACITOR	1μF,16V
	C841	QCYA1EK-104	CAPACITOR	0.1μF,25V
	C842	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C843	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C844	QCYA1EK-104	CAPACITOR	0.1μF,25V
	C845	QCYA1EK-104	CAPACITOR	0.1μF,25V
	C846	QCYA1EK-104	CAPACITOR	0.1μF,25V
	C848	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C850	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C851	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C853	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C854	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C856	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C857	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C860	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C861	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C864	NCT07CH-220A	CAPACITOR	22pF,50V
	C865	NCT07CH-220A	CAPACITOR	22pF,50V
	C866	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C867	NEA21CM-106N	E CAPACITOR	10μF,16V
	C868	NEE21AM-335RY	E CAPACITOR	3.3μF,10V
	C869	NEE21AM-335RY	E CAPACITOR	3.3μF,10V
	C870	NEE21AM-335RY	E CAPACITOR	3.3μF,10V
	C871	QCYA1EK-104	CAPACITOR	0.1μF,25V
	C872	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C873	NCT07CH-180A	CAPACITOR	18pF,50V
	C874	QCYA1EK-104	CAPACITOR	0.1μF,25V
	C875	NEA21CM-106N	E CAPACITOR	10μF,16V
	C876	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C877	NCB31CK-473A	CAPACITOR	0.047μF,16V
	C878	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C879	NCT07CH-470A	CAPACITOR	47pF,50V
	C880	NEE21CM-105RY	E CAPACITOR	1μF,16V

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	C881	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C883	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C884	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C885	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C886	NEA31VM-225N	E CAPACITOR	2.2μF,35V
	C887	NEA21CM-106N	E CAPACITOR	10μF,16V
	C889	NCB31CK-473A	CAPACITOR	0.047μF,16V
	C890	QCYA1EK-104	CAPACITOR	0.1μF,25V
	C891	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C892	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C893	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C894	NEE21AM-335RY	E CAPACITOR	3.3μF,10V
	C895	NEA21CM-106N	E CAPACITOR	10μF,16V
	C896	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C897	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C898	NEA21CM-106N	E CAPACITOR	10μF,16V
	C899	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C900	NEA21CM-106N	E CAPACITOR	10μF,16V
	C901	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C903	QCFA1CZ-105	CAPACITOR	1μF,16V
	C907	QCFA1CZ-105	CAPACITOR	1μF,16V
	L101	PU58201-180J	COIL	18μH
⚠	L401	PELN0755-P	OSC TRANSFORMER	
	L402	YU40740-101K	COIL	100μH
	L501	YU41134-150J	COIL	15μH
	L504	YU41135-470	COIL	47μH
	L505	YU41135-470	COIL	47μH
	L509	YU41134-330JY	COIL	33μH
	L521	YU41134-330JY	COIL	33μH
	L522	YU41134-390J	COIL	39μH
	L523	YU41135-470	COIL	47μH
	L601	YU41135-470	COIL	47μH
	L602	YU41134-331J	COIL	330μH
	L604	YU41134-221JY	COIL	220μH
	L701	YU41135-470	COIL	47μH
	L702	YU41134-1R2MY	COIL	1.2μH
⚠	L703	PELN0744-P	OSC TRANSFORMER	
	L721	YU40740-220K	COIL	22μH
	L722	YU40740-220K	COIL	22μH
	L723	PELN0790-100MP	COIL	10μH
	L724	PELN0790-100MP	COIL	10μH
	L725	PELN0790-100MP	COIL	10μH
	L726	PELN0790-100MP	COIL	10μH
	L727	PELN0790-100MP	COIL	10μH
	L728	PELN0790-100MP	COIL	10μH
	L801	PELN0704-220KY	COIL	22μH
	L802	PELN0704-220KY	COIL	22μH
	L803	PELN0704-330KY	COIL	33μH
	L804	PELN0704-220KY	COIL	22μH
	L805	PELN0704-220KY	COIL	22μH
	L806	PELN0704-220KY	COIL	22μH
	LPF801	PELN0842-Z	LOW PASS FILTER	
	LPF802	PELN0843-Z	LOW PASS FILTER	
	DL501	PEVB0566	2H DELAY LINE	
⚠	X101	PEVB0588	CRYSTAL RESONATOR	
⚠	X102	YU40141	CRYSTAL RESONATOR	
⚠	X501	PEVB0560	CRYSTAL RESONATOR	
	SW1	PESW0673-P	TACT SWITCH,ZOOM W	
	SW2	PESW0673-P	TACT SWITCH,ZOOM T	
	T721	PELN1042-Z	SW TRANS	
	CN1	PEMC1096-014-R	CONNECTOR	
	CN2	PEMC1096-011-R	CONNECTOR	

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	CN3	PEMC1096-018-R	CONNECTOR	
	CN4	YU41356-2-P	CONNECTOR	
	CN5	PEMC1095-028-X	CONNECTOR	
	CN6	PEMC1095-010-R	CONNECTOR	
	CN7	PEMC1095-010-R	CONNECTOR	
	CN8	PEMC1096-011-R	CONNECTOR	
	CN9	PEMC1073-002-P	CONNECTOR	
	CN10	PEMC1096-018-R	CONNECTOR	
	CN11	PEMC1095-006-R	CONNECTOR	
	CN12	PEMC0859-008-P	CONNECTOR	
	CN13	PEMC1095-024-X	CONNECTOR	
	CN15	PEMC1095-020-R	CONNECTOR	
	CN16	PEMC1095-018-R	CONNECTOR	
	CN17	YU41356-2-P	CONNECTOR	

- H-IC BOARD ASSEMBLY -

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	PWBA2	YB20692E	H-IC BOARD ASSY	
	IC1001	HA118186F	IC	
	IC1003	TL8839F	IC	
	Q1001	2SC4617(QRS)	TRANSISTOR	
	Q1002	2SA1774(QRS)	TRANSISTOR	
	R1001	NRSA63J-103NC	RESISTOR	10kΩ,1/16W
	R1002	NRSA63J-132N	RESISTOR	1.3kΩ,1/16W
	R1003	NRSA63G-102N	RESISTOR	1kΩ,1/16W
	R1004	NRSA63J-223NC	RESISTOR	22kΩ,1/16W
	R1005	NRSA63J-511NC	RESISTOR	510Ω,1/16W
	R1006	NRSA63J-681N	RESISTOR	680Ω,1/16W
	R1007	NRSA63J-222NC	RESISTOR	2.2kΩ,1/16W
	R1008	NRSA63J-821NC	RESISTOR	820Ω,1/16W
	R1010	NRSA63J-272NC	RESISTOR	2.7kΩ,1/16W
	R1011	NRSA63J-911NC	RESISTOR	910Ω,1/16W
	R1012	NRSA63J-272N	RESISTOR	2.7kΩ,1/16W
	R1013	NRSA63J-182NC	RESISTOR	1.8kΩ,1/16W
	R1014	NRSA63J-682N	RESISTOR	6.8kΩ,1/16W
	R1015	NRSA63J-105N	RESISTOR	1MΩ,1/16W
	R1017	NRSA63J-562NC	RESISTOR	5.6kΩ,1/16W
	R1018	NRSA63J-225NC	RESISTOR	2.2MΩ,1/16W
	R1020	NRSA63J-0R0NC	RESISTOR	0Ω,1/16W
	R1023	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
	C1006	NCT08CH-330A	CAPACITOR	33pF,50V
	C1007	NCB31EK-223A	CAPACITOR	0.022μF,25V
	C1008	NEE21EM-474RY	E CAPACITOR	0.47μF,25V
	C1009	NCF31EZ-103A	CAPACITOR	0.01μF,25V
	C1010	QCFA1EZ-683	CAPACITOR	0.068μF,25V
	C1011	NCF31HZ-103A	CAPACITOR	0.01μF,50V
	C1012	NCB31HK-102A	CAPACITOR	0.001μF,50V
	C1013	YU41970-J106AW	T CAPACITOR	10μF,6.3V
	C1015	QCYA1EK-104	CAPACITOR	0.1μF,25V
	C1016	NCF31EZ-103A	CAPACITOR	0.01μF,25V
	C1017	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C1018	QCFA1CZ-105	CAPACITOR	1μF,16V
	C1020	NCS31HJ-220A	CAPACITOR	22pF,50V
	C1021	NCS31HJ-100A	CAPACITOR	10pF,50V
	C1022	NEE21VM-224RY	E CAPACITOR	0.22μF,35V
	C1023	NEE21VM-104RY	E CAPACITOR	0.1μF,35V
	C1024	NEE21EM-474RY	E CAPACITOR	0.47μF,25V
	C1025	NEE20JM-225RY	E CAPACITOR	2.2μF,6.3V
	C1027	NEE21AM-335RY	E CAPACITOR	3.3μF,10V
	C1028	QCYA1EK-104	CAPACITOR	0.1μF,25V
	C1029	NEE20JM-475RY	E CAPACITOR	4.7μF,6.3V
	C1031	NEE21AM-335RY	E CAPACITOR	3.3μF,10V
	C1032	NCB31EK-223A	CAPACITOR	0.022μF,25V
	C1036	NEE21EM-474RY	E CAPACITOR	0.47μF,25V
	C1037	QCTA1CH-331	CAPACITOR	330pF,16V
	C1038	NCT06CH-220A	CAPACITOR	22pF,50V
	C1039	NEE21VM-224RY	E CAPACITOR	0.22μF,35V
	C1040	NCS31HJ-151A	CAPACITOR	150pF,50V
	C1043	NEE21AM-335RY	E CAPACITOR	3.3μF,10V
	C1044	NCB31EK-223A	CAPACITOR	0.022μF,25V
	C1046	NCF31HZ-103A	CAPACITOR	0.01μF,50V
	C1047	QCFA1EZ-473	CAPACITOR	0.047μF,25V
	C1049	NCF31EZ-104A	CAPACITOR	0.1μF,25V
	C1050	NCS31HJ-180A	CAPACITOR	18pF,50V
	C1052	NCF31EZ-104A	CAPACITOR	0.1μF,25V
	L1001	YU41134-101J	COIL	100μH
	L1003	YU41134-390J	COIL	39μH
	LC1001	PELN1039-Z	LC TRAP	
	CN1001	PEMC1035	L/A CONNECTOR	

- E.F.S.BOARD ASSEMBLY -

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	PWBA3	YB20510D	E.F.S.BOARD ASSY	
	D803	DAN202U	DIODE	
	R852	NRSA63J-563N	RESISTOR	56kΩ,1/16W

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BATTERY BOARD ASSEMBLY <02>

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	PWBA	YB20706A-01	BATTERY BOARD ASSY
	D1	MA8068	DIODE
	D2	MA8068	DIODE
	SW1	PESW0605-02-R	PUSH SWITCH,START/STOP
	SW2	PESW0610-Z	TACT SWITCH,EJECT
	SW3	PESW0610-Z	TACT SWITCH,TRACK(+)
	SW4	PESW0610-Z	TACT SWITCH,TRACK(−)
	SW5	PESW0610-Z	TACT SWITCH,AUTO DATE
	SW6	PESW0660	SLIDE SWITCH,SP/LP
	KNB1	YQ43557-1-1	KNOB(SP/LP)
	TML1	YQ31690	BATTERY TERMINAL UNIT
	CN1	PEMC0934-020-R	CONNECTOR
	CN2	YU41356-5-R	CONNECTOR
⚠	CP1	ICP-F25	CIRCUIT PROTECTOR
⚠	CP2	ICP-F38	CIRCUIT PROTECTOR

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JACK BOARD ASSEMBLY <03>

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	PWBA	YB20707C-SS	JACK BOARD ASSY
	IC11	NJM2073M	IC
	IC12	TA75S393F	IC
	Q11	2SD1511(R)	TRANSISTOR
	Q13	DTC144EE	TRANSISTOR
		or RN1104	TRANSISTOR
		or UN9213	TRANSISTOR
	Q14	DTA124EE	TRANSISTOR

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
Q15	2SC4617(QRS)	TRANSISTOR	
Q16	2SC4617(QRS)	TRANSISTOR	
Q17	DTA144EE	TRANSISTOR	
Q18	DTC144EE	TRANSISTOR	
	or RN1104	TRANSISTOR	
	or UN9213	TRANSISTOR	
Q19	DTC144EE	TRANSISTOR	
	or RN1104	TRANSISTOR	
	or UN9213	TRANSISTOR	
Q20	DTA124EE	TRANSISTOR	
Q21	DTC144WE	TRANSISTOR	
⚠ D6	MA704WA	DIODE	
D11	DAN222	DIODE	
R2	QRSA08J-750YN	RESISTOR	75Ω,1/10W
R3	QRSA08J-750YN	RESISTOR	75Ω,1/10W
R5	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
⚠ R6	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R14	NRSA63J-562N	RESISTOR	5.6kΩ,1/16W
R15	NRSA63J-473N	RESISTOR	47kΩ,1/16W
R16	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R17	NRSA63J-473N	RESISTOR	47kΩ,1/16W
R18	NRSA63J-473N	RESISTOR	47kΩ,1/16W
R19	QRSA08J-2R2YN	RESISTOR	2.2Ω,1/10W
R20	QRSA08J-2R2YN	RESISTOR	2.2Ω,1/10W
R21	NRSA63J-101N	RESISTOR	100Ω,1/16W
R22	NRSA63J-101N	RESISTOR	100Ω,1/16W
R23	NRSA63J-473N	RESISTOR	47kΩ,1/16W
R24	NRSA63J-473N	RESISTOR	47kΩ,1/16W
R25	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R26	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R27	NRSA63J-473N	RESISTOR	47kΩ,1/16W
R28	NRSA63J-473N	RESISTOR	47kΩ,1/16W
R29	NRSA63J-121N	RESISTOR	120Ω,1/16W
R30	NRSA63J-393N	RESISTOR	39kΩ,1/16W
R31	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R32	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R33	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R34	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R35	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R36	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R37	NRSA63J-153N	RESISTOR	15kΩ,1/16W
R38	NRSA63J-513N	RESISTOR	51kΩ,1/16W
R39	NRSA63J-123N	RESISTOR	12kΩ,1/16W
R40	NRSA63J-473N	RESISTOR	47kΩ,1/16W
R41	NRSA63J-102N	RESISTOR	1kΩ,1/16W
C1	QER40GM-477	E CAPACITOR	470μF,4.0V
C2	NCB31HK-102A	CAPACITOR	0.001μF,50V
C12	YU42058-A336Z	E CAPACITOR	33μF,10V
C13	NEA21HM-225NZ	E CAPACITOR	2.2μF,50V
C14	NEA21CM-106N	E CAPACITOR	10μF,16V
C15	NCB31HK-103A	CAPACITOR	0.01μF,50V
C16	NCB31HK-103A	CAPACITOR	0.01μF,50V
C18	QCY81CK-224	CAPACITOR	0.22μF,16V
C20	NEA20JM-226N	E CAPACITOR	22μF,6.3V
C21	QCFA1CZ-105	CAPACITOR	1μF,16V
C22	QCFA1CZ-105	CAPACITOR	1μF,16V
C23	QCFA1CZ-105	CAPACITOR	1μF,16V
C24	NEE20GM-106RY	E CAPACITOR	10μF,4.0V
C25	YU41970-J106AW	T CAPACITOR	10μF,6.3V
L11	YU41135-470	COIL	47μH
SW1	PESW0658	SLIDE SWITCH	
J1	YQ31689	JACK UNIT	

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION
SPC1	YQM30029-184	SPACER
CN1	PEMC0934-010-R	CONNECTOR
CN2	PEMC0934-010-R	CONNECTOR
CN3	YU41356-2-P	CONNECTOR
CN4	YU41356-8-R	CONNECTOR

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AUDIO SUB BOARD ASSEMBLY <04>

PWBA4	YB10125F2	AUDIO SUB BOARD ASSY
R499	PERE0579	V RESISTOR,AUDIO LEVEL
HD1	YQ43861A-2	RING(SP.)ASSY
HD2	YQ43861B-2	RING(SP.)ASSY
HD3	YQ31733-1-3	HOLDER(SPEAKER)
HD4	YQ31731-1-3	COVER(SPEAKER)
SCW1	SPSN1705Z	SCREW
SCW2	YQM30032-44	SPECIAL SCREW
SCW3	YQM30032-44	SPECIAL SCREW,X2
SP1	PEVB0607	SPEAKER
J499	PEMC1087	MINI JACK
CN499	ML-Y00707B	A.SUB WIRE

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SENSOR BOARD ASSEMBLY <05>

PWBA	YU42052-1-1	SENSOR BOARD ASSY

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M-CCD BOARD ASSEMBLY <06>

PWBA	YB20708E-01-SS	M-CCD BOARD ASSY	
IC951	MN3112SA	IC	
IC952	JCY0035	IC	
IC953	AN2018S	IC	
Q951	2SC3931(CD)	TRANSISTOR	
Q952	XP4501	TRANSISTOR	
Q954	2SC4081(QR)	TRANSISTOR	
Q955	2SC4081(QR)	TRANSISTOR	
Q956	2SC4081(QR)	TRANSISTOR	
D951	1SS355	DIODE	
D952	1SS355	DIODE	
D953	MA143	DIODE	
D954	1SS355	DIODE	
R951	NRSA63J-153N	RESISTOR	15kΩ,1/16W
R952	NRSA63J-432N	RESISTOR	4.3kΩ,1/16W
R953	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R954	NRSA63J-104N	RESISTOR	100kΩ,1/16W
R955	NRSA63J-222N	RESISTOR	2.2kΩ,1/16W
R956	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R957	NRSA63J-100N	RESISTOR	10Ω,1/16W

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	R958	NRSA63J-562N	RESISTOR	5.6kΩ,1/16W
	R959	NRSA63J-105N	RESISTOR	1MΩ,1/16W
	R960	NRSA63J-332N	RESISTOR	3.3kΩ,1/16W
	R961	NRSA63J-104N	RESISTOR	100kΩ,1/16W
	R962	NRSA63J-273N	RESISTOR	27kΩ,1/16W
	R963	NRSA63J-222N	RESISTOR	2.2kΩ,1/16W
	R964	NRSA63J-393N	RESISTOR	39kΩ,1/16W
	R965	NRSA63J-203N	RESISTOR	20kΩ,1/16W
	R966	NRSA63J-131N	RESISTOR	130Ω,1/16W
	R967	NRSA63J-131N	RESISTOR	130Ω,1/16W
	R968	NRSA63J-241N	RESISTOR	240Ω,1/16W
	R969	NRSA63J-103N	RESISTOR	10kΩ,1/16W
	R971	NRSA63J-183N	RESISTOR	18kΩ,1/16W
	R973	NRSA63J-102N	RESISTOR	1kΩ,1/16W
	R974	NRSA63J-393N	RESISTOR	39kΩ,1/16W
	R978	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
	R980	NRSA63J-392N	RESISTOR	3.9kΩ,1/16W
	R981	NRSA63J-182N	RESISTOR	1.8kΩ,1/16W
	R982	NRSA63J-101N	RESISTOR	100Ω,1/16W
	R983	NRSA63J-101N	RESISTOR	100Ω,1/16W
	R984	NRSA63J-221N	RESISTOR	220Ω,1/16W
	R985	NRSA63J-221N	RESISTOR	220Ω,1/16W
	R986	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
	R987	NRSA63J-103N	RESISTOR	10kΩ,1/16W
	R988	NRSA63J-103N	RESISTOR	10kΩ,1/16W
	R989	NRSA63J-101N	RESISTOR	100Ω,1/16W
	R990	NRSA63J-153N	RESISTOR	15kΩ,1/16W
	R991	NRSA63J-101N	RESISTOR	100Ω,1/16W
	R992	NRSA63J-101N	RESISTOR	100Ω,1/16W
	R993	NRSA63J-101N	RESISTOR	100Ω,1/16W
	R994	NRSA63J-101N	RESISTOR	100Ω,1/16W
	R995	NRSA63J-101N	RESISTOR	100Ω,1/16W
	R996	NRSA63J-101N	RESISTOR	100Ω,1/16W
	R997	NRSA63J-101N	RESISTOR	100Ω,1/16W
	R998	NRSA63J-101N	RESISTOR	100Ω,1/16W
	C951	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C952	NEA21EM-475NZ	E CAPACITOR	4.7μF,25V
	C953	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C954	NCB31HK-102A	CAPACITOR	0.001μF,50V
	C955	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C956	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C957	NEA21CM-106N	E CAPACITOR	10μF,16V
	C958	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C959	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C960	NEA20JM-226N	E CAPACITOR	22μF,6.3V
	C961	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C962	NEE21CM-105RY	E CAPACITOR	1μF,16V
	C963	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C964	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C965	QCYA1EK-104	CAPACITOR	0.1μF,25V
	C966	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C967	QCFA1CZ-105	CAPACITOR	1μF,16V
	C968	QCFA1CZ-105	CAPACITOR	1μF,16V
	C969	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C970	NEE21AM-476RZ	E CAPACITOR	47μF,10V
	C971	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C973	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C975	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C976	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C977	NCB31HK-102A	CAPACITOR	0.001μF,50V
	C978	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C979	NCT07CH-560A	CAPACITOR	56pF,50V
	C980	NCT07CH-101A	CAPACITOR	100pF,50V
	C981	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C982	NEA21EM-475NZ	E CAPACITOR	4.7μF,25V
	C983	NCT06CH-271A	CAPACITOR	270pF,50V
	C984	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	L951	YU40740-220K	COIL	22μH
	L953	YU40740-220K	COIL	22μH
	L954	YU40740-220K	COIL	22μH
	L955	YU40740-220K	COIL	22μH
⚠	X951	PEVB0504-P	CXO	
	CN951	PEMC1071	CCD SOCKET	
	CN952	PEMC0855-028-X	CONNECTOR	

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MONITOR BOARD ASSEMBLY <07>

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	PWBA	YB10126B-01-SS	MONITOR BOARD ASSY	
	IC1	MB3800	IC	
	IC101	TC7W04F	IC	
	IC201	IR3Y18	IC	
	IC202	NJM3416V	IC	
	IC203	LR38379	IC	
	IC204	NJM2107F-XE	IC	
	IC205	TC74HC00AF	IC	
	Q1	2SD1621(TU)	TRANSISTOR	
	Q2	2SC4617(RS)	TRANSISTOR	
	Q3	DTA144EE	TRANSISTOR	
	Q4	2SB1295(67)	TRANSISTOR	
	Q5	DTC144EE	TRANSISTOR	
	Q103	2SD1624(TU)	TRANSISTOR	
	Q104	2SD1624(TU)	TRANSISTOR	
	Q105	2SC4617(RS)	TRANSISTOR	
	Q106	DTA144EE	TRANSISTOR	
	Q201	UMC1N	PAIR TRANSISTOR	
	Q202	2SC2412KLN	TRANSISTOR	
	D1	IMN10	DIODE	
	D2	MA132WK	DIODE	
	D101	CL-150YG-CD-X	LE DIODE	
	D201	MA143A	DIODE	
	D204	MA143A	DIODE	
	D205	MA365	DIODE	
	R1	NRVA63D-513N	MF RESISTOR	51kΩ,1/16W
	R2	NRVA63D-272N	MF RESISTOR	2.7kΩ,1/16W
	R3	NRSA63G-332N	RESISTOR	3.3kΩ,1/16W
	R4	NRSA63J-681N	RESISTOR	680Ω,1/16W
	R5	NVP1311-471N	V RESISTOR,REG 9V	
	R6	NRVA63D-121N	MF RESISTOR	120Ω,1/16W
⚠	R101	PERE0576-Z	FUSE RESISTOR	
	R106	NRSA63J-102N	RESISTOR	1kΩ,1/16W
	R107	NRS144J-151N	RESISTOR	150Ω,1/4W
	R201	NRSA63J-102N	RESISTOR	1kΩ,1/16W
	R202	NRSA63J-122N	RESISTOR	1.2kΩ,1/16W
	R203	NRSA63J-106N	RESISTOR	10MΩ,1/16W
	R207	NRSA63J-102N	RESISTOR	1kΩ,1/16W
	R208	NRVA63D-683N	MF RESISTOR	68kΩ,1/16W
	R209	PERE0492	V RESISTOR,COLOR	
	R210	NRVA63D-753N	MF RESISTOR	75kΩ,1/16W
	R211	NRSA63J-684N	RESISTOR	680kΩ,1/16W

#△ REF No.	PART No.	PART NAME, DESCRIPTION	
R212	NRSA63J-682N	RESISTOR	6.8kΩ,1/16W
R214	NRSA63J-515N	RESISTOR	5.1MΩ,1/16W
R216	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R218	NVP1311-682N	V RESISTOR,COLOR PHASE2	
R219	NRSA63J-222N	RESISTOR	2.2kΩ,1/16W
R220	NRSA63J-562N	RESISTOR	5.6kΩ,1/16W
R221	NRSA63J-822N	RESISTOR	8.2kΩ,1/16W
R222	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R223	NRSA63J-101N	RESISTOR	100Ω,1/16W
R224	NRSA63J-101N	RESISTOR	100Ω,1/16W
R225	NRSA63J-101N	RESISTOR	100Ω,1/16W
R226	NRSA63J-101N	RESISTOR	100Ω,1/16W
R227	NRSA63J-393N	RESISTOR	39kΩ,1/16W
R228	NVP1311-223N	V RESISTOR,R BRIGHT	
R229	NRSA63J-393N	RESISTOR	39kΩ,1/16W
R230	NRSA63J-393N	RESISTOR	39kΩ,1/16W
R231	NVP1311-223N	V RESISTOR,B BRIGHT	
R232	NRSA63J-393N	RESISTOR	39kΩ,1/16W
R233	NRSA63J-223N	RESISTOR	22kΩ,1/16W
R235	NVP1311-223N	V RESISTOR,GAMMA	
R236	NRSA63J-223N	RESISTOR	22kΩ,1/16W
R237	NRVA63D-223N	MF RESISTOR	22kΩ,1/16W
R239	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R240	NRVA63D-223N	MF RESISTOR	22kΩ,1/16W
R241	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R242	NRVA63D-393N	RESISTOR	39kΩ,1/16W
R243	PERE0492	V RESISTOR,BRIGHT	
R244	NRVA63D-303N	MF RESISTOR	30kΩ,1/16W
R245	NRSA63J-472N	RESISTOR	4.7kΩ,1/16W
R247	NVP1311-223N	V RESISTOR,SUB CONT R	
R248	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R249	NRSA63J-472N	RESISTOR	4.7kΩ,1/16W
R251	NVP1311-223N	V RESISTOR,SUB CONT B	
R252	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R253	NRSA63J-101N	RESISTOR	100Ω,1/16W
R254	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R255	NRVA63D-393N	RESISTOR	39kΩ,1/16W
R256	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R258	NRVA63D-393N	RESISTOR	39kΩ,1/16W
R259	NRSA63J-684N	RESISTOR	680kΩ,1/16W
R260	NRSA63J-104N	RESISTOR	100kΩ,1/16W
R261	NRSA63G-183N	RESISTOR	18kΩ,1/16W
R262	NRSA63J-105N	RESISTOR	1MΩ,1/16W
R263	NRVA63D-473N	MF RESISTOR	47kΩ,1/16W
R264	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R266	NRVA63D-623N	MF RESISTOR	62kΩ,1/16W
R267	NRSA63J-271N	RESISTOR	270Ω,1/16W
R268	NRSA63J-823N	RESISTOR	82kΩ,1/16W
R269	NRSA63J-823N	RESISTOR	82kΩ,1/16W
R270	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R271	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R272	NRSA63J-223N	RESISTOR	22kΩ,1/16W
R273	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R275	NRSA63J-104N	RESISTOR	100kΩ,1/16W
R276	NRSA63J-473N	RESISTOR	47kΩ,1/16W
R277	NRSA63J-472N	RESISTOR	4.7kΩ,1/16W
R278	NRSA63J-683N	RESISTOR	68kΩ,1/16W
R279	NRSA63J-472N	RESISTOR	4.7kΩ,1/16W
R280	NRSA63J-243N	RESISTOR	24kΩ,1/16W
R281	NRSA63J-105N	RESISTOR	1MΩ,1/16W
R282	NRSA63J-683N	RESISTOR	68kΩ,1/16W
R283	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R284	NVP1311-104N	V RESISTOR,PLL	
R285	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R286	NRSA63J-223N	RESISTOR	22kΩ,1/16W
R287	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R288	NRSA63J-332N	RESISTOR	3.3kΩ,1/16W
R289	NRSA63J-472N	RESISTOR	4.7kΩ,1/16W
R290	NRSA63J-181N	RESISTOR	180Ω,1/16W
R291	NRSA63J-391N	RESISTOR	390Ω,1/16W
R292	NRSA63J-105N	RESISTOR	1MΩ,1/16W
R293	NRSA63J-152N	RESISTOR	1.5kΩ,1/16W
R294	NRSA63J-101N	RESISTOR	100Ω,1/16W
R295	NRVA63D-243N	RESISTOR	24kΩ,1/16W
R296	NRVA63D-303N	MF RESISTOR	30kΩ,1/16W
R297	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R298	NVP1311-103N	V RESISTOR,V COM	
R299	NRSA63J-472N	RESISTOR	4.7kΩ,1/16W
R300	NRSA63J-273N	RESISTOR	27kΩ,1/16W
R301	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R302	NRVA63D-393N	RESISTOR	39kΩ,1/16W
R303	NRVA63D-363N	MF RESISTOR	36kΩ,1/16W
R304	NRVA63D-683N	MF RESISTOR	68kΩ,1/16W
R305	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R309	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R310	NRSA63J-273N	RESISTOR	27kΩ,1/16W
R311	NRSA63J-124N	RESISTOR	120kΩ,1/16W
R312	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R313	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R319	NRSA63J-101N	RESISTOR	100Ω,1/16W
R320	NRSA63J-101N	RESISTOR	100Ω,1/16W
R321	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R322	NRSA63J-685N	RESISTOR	6.8MΩ,1/16W
R323	NRSA63J-473N	RESISTOR	47kΩ,1/16W
R324	NRSA63J-223N	RESISTOR	22kΩ,1/16W
R325	NRSA63J-335N	RESISTOR	3.3MΩ,1/16W
R327	NRSA63J-472N	RESISTOR	4.7kΩ,1/16W
R328	NRSA63J-472N	RESISTOR	4.7kΩ,1/16W
R331	NRSA63J-333N	RESISTOR	33kΩ,1/16W
R332	NRSA63J-223N	RESISTOR	22kΩ,1/16W
R334	NRSA63J-472N	RESISTOR	4.7kΩ,1/16W
R335	NRSA63J-223N	RESISTOR	22kΩ,1/16W
R336	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R337	NRSA63J-331N	RESISTOR	330Ω,1/16W
R338	QRD162J-183	RESISTOR	18kΩ,1/6W
C2	NEA21CM-106N	E CAPACITOR	10μF,16V
C3	NCB31EK-103A	CAPACITOR	0.01μF,25V
C4	QCY81CK-105	CAPACITOR	1μF,16V
C5	QCY81CK-105	CAPACITOR	1μF,16V
C6	PECA0958-Y	CAPACITOR	2.2μF,10V
C7	QCY81CK-105	CAPACITOR	1μF,16V
C8	QCY81CK-105	CAPACITOR	1μF,16V
C9	NEA21EM-475NZ	E CAPACITOR	4.7μF,25V
C10	NCB31HK-471A	CAPACITOR	470pF,50V
C11	NCB31EK-103A	CAPACITOR	0.01μF,25V
C12	NCB31CK-333A	CAPACITOR	0.033μF,16V
C13	QCY81CK-105	CAPACITOR	1μF,16V
C15	NEA21CM-106N	E CAPACITOR	10μF,16V
C16	NCB31CK-333A	CAPACITOR	0.033μF,16V
C102	PECA0939-270Z	CAPACITOR	27pF,3KV DC
C103	PECA0740-336ML	E CAPACITOR	33μF
C104	NFV41HJ-473AZ	CAPACITOR	0.047μF,50V
C105	PECA0939-330Z	CAPACITOR	33pF,3KV DC
C106	QCYA1EK-104ZR	CAPACITOR	0.1μF,25V

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	C107	QCY81EK-474	CAPACITOR	0.47μF,25V
	C108	PECA0958-Y	CAPACITOR	2.2μF,10V
	C201	NEA21CM-106N	E CAPACITOR	10μF,16V
	C202	QCTA1CH-681	CAPACITOR	680pF,16V
	C203	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C204	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C205	QCYA1EK-473	CAPACITOR	0.047μF,25V
	C206	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C207	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C208	NCT06CH-820A	CAPACITOR	82pF,50V
	C209	QCYA1CK-223	CAPACITOR	0.022μF,16V
	C211	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C212	QCY81EK-474	CAPACITOR	0.47μF,25V
	C213	QCY81EK-334	CAPACITOR	0.33μF,25V
	C214	QCY81CK-105	CAPACITOR	1μF,16V
	C215	NEA21AM-336NZ	E CAPACITOR	33μF,10V
	C216	QCY81EK-334	CAPACITOR	0.33μF,25V
	C217	QCY81EK-334	CAPACITOR	0.33μF,25V
	C218	QCY81CK-105	CAPACITOR	1μF,16V
	C219	NEA20JM-107NP	E CAPACITOR	100μF,6.3V
	C220	NEA21EM-336NP	E CAPACITOR	33μF,25V
	C221	QCY81CK-105	CAPACITOR	1μF,16V
	C222	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C223	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C224	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C225	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C226	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C227	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C228	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C229	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C230	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C231	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C232	QCY81CK-105	CAPACITOR	1μF,16V
	C233	NEA21AM-336NZ	E CAPACITOR	33μF,10V
	C234	QCY81CK-224	CAPACITOR	0.22μF,16V
	C235	NEA21HM-105NZ	E CAPACITOR	1μF,50V
	C236	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C237	QCY81EK-474	CAPACITOR	0.47μF,25V
	C238	NCT06CH-221A	CAPACITOR	220pF,50V
	C239	NCT06CH-331A	CAPACITOR	330pF,50V
	C240	QCYA1EK-104ZR	CAPACITOR	0.1μF,25V
	C241	QCYA1EK-104ZR	CAPACITOR	0.1μF,25V
	C242	QCYA1EK-104ZR	CAPACITOR	0.1μF,25V
	C243	QCYA1EK-104ZR	CAPACITOR	0.1μF,25V
	C244	NCB31HK-561A	CAPACITOR	560pF,50V
	C245	NCB31HK-102A	CAPACITOR	0.001μF,50V
	C246	NCT06UJ-151A	CAPACITOR	150pF
	C247	NCT06CH-221A	CAPACITOR	220pF,50V
	C248	NCT06UJ-561A	CAPACITOR	560pF
	C249	QCYA1EK-104ZR	CAPACITOR	0.1μF,25V
	C250	NCT08CH-820A	CAPACITOR	82pF,50V
	C251	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C252	NEA21CM-226NZ	E CAPACITOR	22μF,16V
	C253	YU42059-E475Z	E CAPACITOR	4.7μF,25V
	C254	NCT06CH-120A	CAPACITOR	12pF,50V
	C255	QCY81CK-105	CAPACITOR	1μF,16V
	C256	QCY81EK-474	CAPACITOR	0.47μF,25V
	C260	NCT08CH-560A	CAPACITOR	56pF,50V
	C261	QCYA1EK-104ZR	CAPACITOR	0.1μF,25V
	C262	QCYA1EK-104ZR	CAPACITOR	0.1μF,25V
	C264	QCYA1EK-104ZR	CAPACITOR	0.1μF,25V
	L1	YU40740-100KY	COIL	10μH

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	L2	YU40740-220K	COIL	22μH
	L3	YU40740-150K	COIL	15μH
	L4	YU40740-220K	COIL	22μH
	L5	YU40740-100KY	COIL	10μH
	L6	YU40740-4R7MY	COIL	4.7μH
	L102	PELN0790-101MP	COIL	100μH
	L103	YU40740-4R7MY	COIL	4.7μH
	L201	PELN1046-Z	COIL,COLOR PHASE1	
	L203	PELN0584-180JY	COIL	18μH
	L204	YU40740-220K	COIL	22μH
	FL101	YQ43750	CLIP(F.L),X2	
	TRAP201	YU41325-4R4-Z	CHIP TRAP	
⚠	X201	PEVB0593-R	CRYSTAL RESONATOR	
	SW201	PESW0665-Z	TACT SWITCH,MESSAGE REC	
	SW202	PESW0665-Z	TACT SWITCH,MESSAGE PB	
	SW203	PESW0665-Z	TACT SWITCH,LCD PWR CTL	
	T1	PELN1059-P	SW TRANS	
	T101	PELN1060-R	SW TRANS	
	CN201	PEMC1095-018-R	CONNECTOR	
	CN202	PEMC1095-018-R	CONNECTOR	

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OPERATION BOARD ASSEMBLY <09>

PWBA	YQ31687-2-3	OPERATION BOARD ASSY

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UPPER DRUM BOARD <40>

PWB	YDM3073-4	BOARD (UPPER DRUM)

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R212	NRSA63J-682N	RESISTOR	6.8kΩ,1/16W
R214	NRSA63J-515N	RESISTOR	5.1MΩ,1/16W
R216	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R218	NVP1311-682N	V RESISTOR,COLOR PHASE2	
R219	NRSA63J-222N	RESISTOR	2.2kΩ,1/16W
R220	NRSA63J-562N	RESISTOR	5.6kΩ,1/16W
R221	NRSA63J-822N	RESISTOR	8.2kΩ,1/16W
R222	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R223	NRSA63J-101N	RESISTOR	100Ω,1/16W
R224	NRSA63J-101N	RESISTOR	100Ω,1/16W
R225	NRSA63J-101N	RESISTOR	100Ω,1/16W
R226	NRSA63J-101N	RESISTOR	100Ω,1/16W
R227	NRSA63J-393N	RESISTOR	39kΩ,1/16W
R228	NVP1311-223N	V RESISTOR,R BRIGHT	
R229	NRSA63J-393N	RESISTOR	39kΩ,1/16W
R230	NRSA63J-393N	RESISTOR	39kΩ,1/16W
R231	NVP1311-223N	V RESISTOR,B BRIGHT	
R232	NRSA63J-393N	RESISTOR	39kΩ,1/16W
R233	NRSA63J-223N	RESISTOR	22kΩ,1/16W
R235	NVP1311-223N	V RESISTOR,GAMMA	
R236	NRSA63J-223N	RESISTOR	22kΩ,1/16W
R237	NRVA63D-223N	MF RESISTOR	22kΩ,1/16W
R239	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R240	NRVA63D-223N	MF RESISTOR	22kΩ,1/16W
R241	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R242	NRVA63D-393N	RESISTOR	39kΩ,1/16W
R243	PERE0492	V RESISTOR,BRIGHT	
R244	NRVA63D-303N	MF RESISTOR	30kΩ,1/16W
R245	NRSA63J-472N	RESISTOR	4.7kΩ,1/16W
R247	NVP1311-223N	V RESISTOR,SUB CONT R	
R248	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R249	NRSA63J-472N	RESISTOR	4.7kΩ,1/16W
R251	NVP1311-223N	V RESISTOR,SUB CONT B	
R252	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R253	NRSA63J-101N	RESISTOR	100Ω,1/16W
R254	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R255	NRVA63D-393N	RESISTOR	39kΩ,1/16W
R256	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R258	NRVA63D-393N	RESISTOR	39kΩ,1/16W
R259	NRSA63J-684N	RESISTOR	680kΩ,1/16W
R260	NRSA63J-104N	RESISTOR	100kΩ,1/16W
R261	NRSA63G-183N	RESISTOR	18kΩ,1/16W
R262	NRSA63J-105N	RESISTOR	1MΩ,1/16W
R263	NRVA63D-473N	MF RESISTOR	47kΩ,1/16W
R264	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R266	NRVA63D-623N	MF RESISTOR	62kΩ,1/16W
R267	NRSA63J-271N	RESISTOR	270Ω,1/16W
R268	NRSA63J-823N	RESISTOR	82kΩ,1/16W
R269	NRSA63J-823N	RESISTOR	82kΩ,1/16W
R270	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R271	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R272	NRSA63J-223N	RESISTOR	22kΩ,1/16W
R273	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R275	NRSA63J-104N	RESISTOR	100kΩ,1/16W
R276	NRSA63J-473N	RESISTOR	47kΩ,1/16W
R277	NRSA63J-472N	RESISTOR	4.7kΩ,1/16W
R278	NRSA63J-683N	RESISTOR	68kΩ,1/16W
R279	NRSA63J-472N	RESISTOR	4.7kΩ,1/16W
R280	NRSA63J-243N	RESISTOR	24kΩ,1/16W
R281	NRSA63J-105N	RESISTOR	1MΩ,1/16W
R282	NRSA63J-683N	RESISTOR	68kΩ,1/16W
R283	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R284	NVP1311-104N	V RESISTOR,PLL	
R285	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R286	NRSA63J-223N	RESISTOR	22kΩ,1/16W
R287	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R288	NRSA63J-332N	RESISTOR	3.3kΩ,1/16W
R289	NRSA63J-472N	RESISTOR	4.7kΩ,1/16W
R290	NRSA63J-181N	RESISTOR	180Ω,1/16W
R291	NRSA63J-391N	RESISTOR	390Ω,1/16W
R292	NRSA63J-105N	RESISTOR	1MΩ,1/16W
R293	NRSA63J-152N	RESISTOR	1.5kΩ,1/16W
R294	NRSA63J-101N	RESISTOR	100Ω,1/16W
R295	NRVA63D-243N	RESISTOR	24kΩ,1/16W
R296	NRVA63D-303N	MF RESISTOR	30kΩ,1/16W
R297	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R298	NVP1311-103N	V RESISTOR,V COM	
R299	NRSA63J-472N	RESISTOR	4.7kΩ,1/16W
R300	NRSA63J-273N	RESISTOR	27kΩ,1/16W
R301	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R302	NRVA63D-393N	RESISTOR	39kΩ,1/16W
R303	NRVA63D-363N	MF RESISTOR	36kΩ,1/16W
R304	NRVA63D-683N	MF RESISTOR	68kΩ,1/16W
R305	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R309	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R310	NRSA63J-273N	RESISTOR	27kΩ,1/16W
R311	NRSA63J-124N	RESISTOR	120kΩ,1/16W
R312	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R313	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R319	NRSA63J-101N	RESISTOR	100Ω,1/16W
R320	NRSA63J-101N	RESISTOR	100Ω,1/16W
R321	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R322	NRSA63J-685N	RESISTOR	6.8MΩ,1/16W
R323	NRSA63J-473N	RESISTOR	47kΩ,1/16W
R324	NRSA63J-223N	RESISTOR	22kΩ,1/16W
R325	NRSA63J-335N	RESISTOR	3.3MΩ,1/16W
R327	NRSA63J-472N	RESISTOR	4.7kΩ,1/16W
R328	NRSA63J-472N	RESISTOR	4.7kΩ,1/16W
R331	NRSA63J-333N	RESISTOR	33kΩ,1/16W
R332	NRSA63J-223N	RESISTOR	22kΩ,1/16W
R334	NRSA63J-472N	RESISTOR	4.7kΩ,1/16W
R335	NRSA63J-223N	RESISTOR	22kΩ,1/16W
R336	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R337	NRSA63J-331N	RESISTOR	330Ω,1/16W
R338	QRD162J-183	RESISTOR	18kΩ,1/6W
C2	NEA21CM-106N	E CAPACITOR	10µF,16V
C3	NCB31EK-103A	CAPACITOR	0.01µF,25V
C4	QCY81CK-105	CAPACITOR	1µF,16V
C5	QCY81CK-105	CAPACITOR	1µF,16V
C6	PECA0958-Y	CAPACITOR	2.2µF,10V
C7	QCY81CK-105	CAPACITOR	1µF,16V
C8	QCY81CK-105	CAPACITOR	1µF,16V
C9	NEA21EM-475NZ	E CAPACITOR	4.7µF,25V
C10	NCB31HK-471A	CAPACITOR	470pF,50V
C11	NCB31EK-103A	CAPACITOR	0.01µF,25V
C12	NCB31CK-333A	CAPACITOR	0.033µF,16V
C13	QCY81CK-105	CAPACITOR	1µF,16V
C15	NEA21CM-106N	E CAPACITOR	10µF,16V
C16	NCB31CK-333A	CAPACITOR	0.033µF,16V
C102	PECA0939-270Z	CAPACITOR	27pF,3KV DC
C103	PECA0740-336ML	E CAPACITOR	33µF
C104	NFV41HJ-473AZ	CAPACITOR	0.047µF,50V
C105	PECA0939-330Z	CAPACITOR	33pF,3KV DC
C106	QCYA1EK-104ZR	CAPACITOR	0.1µF,25V

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C107	QCY81EK-474	CAPACITOR	0.47μF,25V
C108	PECA0958-Y	CAPACITOR	2.2μF,10V
C201	NEA21CM-106N	E CAPACITOR	10μF,16V
C202	QCTA1CH-681	CAPACITOR	680pF,16V
C203	NCB31EK-103A	CAPACITOR	0.01μF,25V
C204	NCB31EK-103A	CAPACITOR	0.01μF,25V
C205	QCYA1EK-473	CAPACITOR	0.047μF,25V
C206	NCB31EK-103A	CAPACITOR	0.01μF,25V
C207	NCB31EK-103A	CAPACITOR	0.01μF,25V
C208	NCT06CH-820A	CAPACITOR	82pF,50V
C209	QCYA1CK-223	CAPACITOR	0.022μF,16V
C211	NCB31EK-103A	CAPACITOR	0.01μF,25V
C212	QCY81EK-474	CAPACITOR	0.47μF,25V
C213	QCY81EK-334	CAPACITOR	0.33μF,25V
C214	QCY81CK-105	CAPACITOR	1μF,16V
C215	NEA21AM-336NZ	E CAPACITOR	33μF,10V
C216	QCY81EK-334	CAPACITOR	0.33μF,25V
C217	QCY81EK-334	CAPACITOR	0.33μF,25V
C218	QCY81CK-105	CAPACITOR	1μF,16V
C219	NEA20JM-107NP	E CAPACITOR	100μF,6.3V
C220	NEA21EM-336NP	E CAPACITOR	33μF,25V
C221	QCY81CK-105	CAPACITOR	1μF,16V
C222	NCB31EK-103A	CAPACITOR	0.01μF,25V
C223	NCB31EK-103A	CAPACITOR	0.01μF,25V
C224	NCB31EK-103A	CAPACITOR	0.01μF,25V
C225	NCB31EK-103A	CAPACITOR	0.01μF,25V
C226	NCB31EK-103A	CAPACITOR	0.01μF,25V
C227	NCB31EK-103A	CAPACITOR	0.01μF,25V
C228	NCB31EK-103A	CAPACITOR	0.01μF,25V
C229	NCB31EK-103A	CAPACITOR	0.01μF,25V
C230	NCB31EK-103A	CAPACITOR	0.01μF,25V
C231	NCB31EK-103A	CAPACITOR	0.01μF,25V
C232	QCY81CK-105	CAPACITOR	1μF,16V
C233	NEA21AM-336NZ	E CAPACITOR	33μF,10V
C234	QCY81CK-224	CAPACITOR	0.22μF,16V
C235	NEA21HM-105NZ	E CAPACITOR	1μF,50V
C236	NCB31EK-103A	CAPACITOR	0.01μF,25V
C237	QCY81EK-474	CAPACITOR	0.47μF,25V
C238	NCT06CH-221A	CAPACITOR	220pF,50V
C239	NCT06CH-331A	CAPACITOR	330pF,50V
C240	QCYA1EK-104ZR	CAPACITOR	0.1μF,25V
C241	QCYA1EK-104ZR	CAPACITOR	0.1μF,25V
C242	QCYA1EK-104ZR	CAPACITOR	0.1μF,25V
C243	QCYA1EK-104ZR	CAPACITOR	0.1μF,25V
C244	NCB31HK-561A	CAPACITOR	560pF,50V
C245	NCB31HK-102A	CAPACITOR	0.001μF,50V
C246	NCT06UJ-151A	CAPACITOR	150pF
C247	NCT06CH-221A	CAPACITOR	220pF,50V
C248	NCT06UJ-561A	CAPACITOR	560pF
C249	QCYA1EK-104ZR	CAPACITOR	0.1μF,25V
C250	NCT08CH-820A	CAPACITOR	82pF,50V
C251	NCB31EK-103A	CAPACITOR	0.01μF,25V
C252	NEA21CM-226NZ	E CAPACITOR	22μF,16V
C253	YU42059-E475Z	E CAPACITOR	4.7μF,25V
C254	NCT06CH-120A	CAPACITOR	12pF,50V
C255	QCY81CK-105	CAPACITOR	1μF,16V
C256	QCY81EK-474	CAPACITOR	0.47μF,25V
C260	NCT08CH-560A	CAPACITOR	56pF,50V
C261	QCYA1EK-104ZR	CAPACITOR	0.1μF,25V
C262	QCYA1EK-104ZR	CAPACITOR	0.1μF,25V
C264	QCYA1EK-104ZR	CAPACITOR	0.1μF,25V
L1	YU40740-100KY	COIL	10μH

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
L2	YU40740-220K	COIL	22μH
L3	YU40740-150K	COIL	15μH
L4	YU40740-220K	COIL	22μH
L5	YU40740-100KY	COIL	10μH
L6	YU40740-4R7MY	COIL	4.7μH
L102	PELN0790-101MP	COIL	100μH
L103	YU40740-4R7MY	COIL	4.7μH
L201	PELN1046-Z	COIL,COLOR PHASE1	
L203	PELN0584-180JY	COIL	18μH
L204	YU40740-220K	COIL	22μH
FL101	YQ43750	CLIP(F.L),X2	
TRAP201	YU41325-4R4-Z	CHIP TRAP	
⚠ X201	PEVB0593-R	CRYSTAL RESONATOR	
SW201	PESW0665-Z	TACT SWITCH,MESSAGE REC	
SW202	PESW0665-Z	TACT SWITCH,MESSAGE PB	
SW203	PESW0665-Z	TACT SWITCH,LCD PWR CTL	
T1	PELN1059-P	SW TRANS	
T101	PELN1060-R	SW TRANS	
CN201	PEMC1095-018-R	CONNECTOR	
CN202	PEMC1095-018-R	CONNECTOR	

****

OPERATION BOARD ASSEMBLY <09>

PWBA	YQ31687-2-3	OPERATION BOARD ASSY

****

UPPER DRUM BOARD <40>

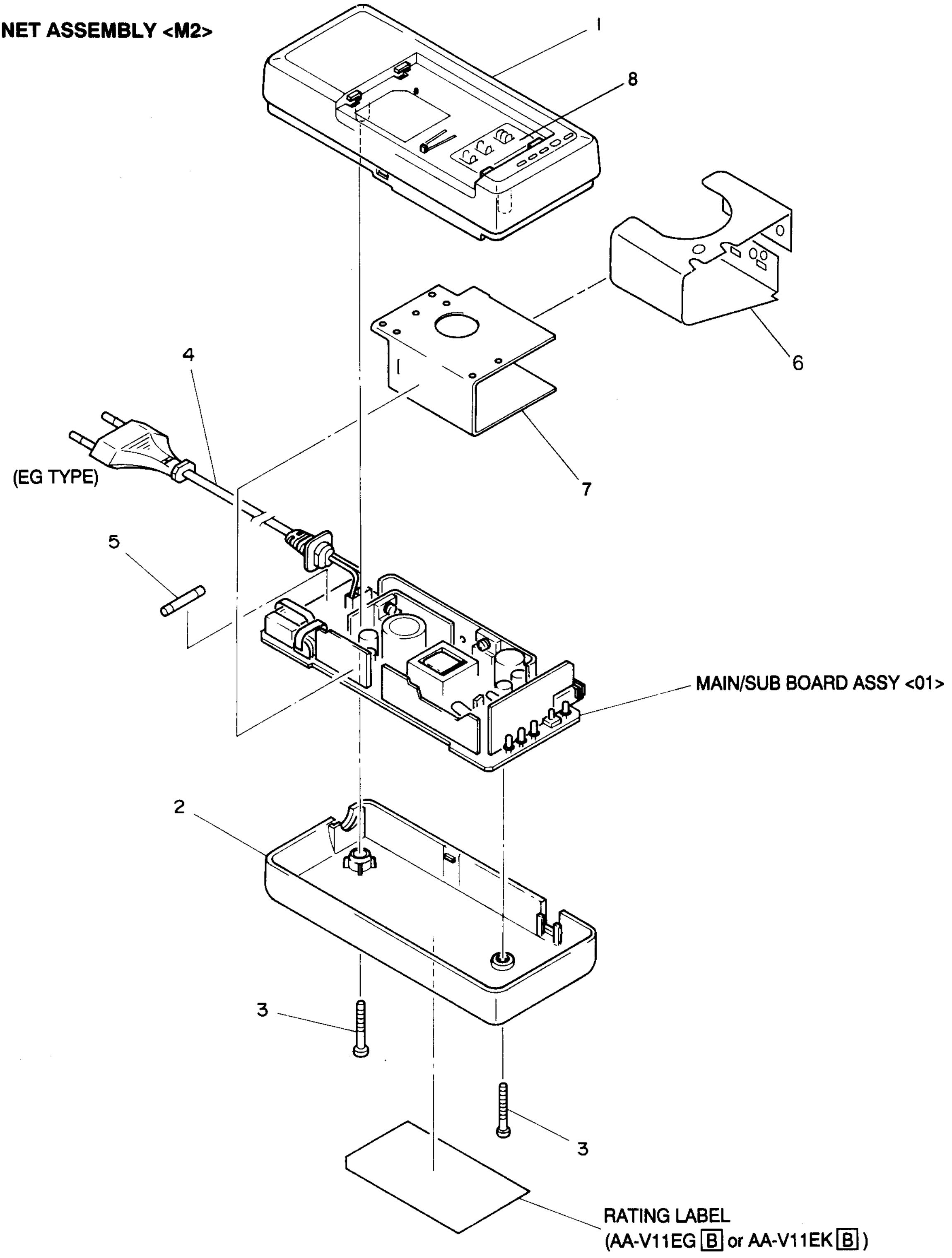
PWB	YDM3073-4	BOARD (UPPER DRUM)

SECTION 6
AC POWER ADAPTER (AA-V11EG $\boxed{B}$ /EK $\boxed{B}$)

SAFETY PRECAUTION

Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

6.1 CABINET ASSEMBLY <M2>

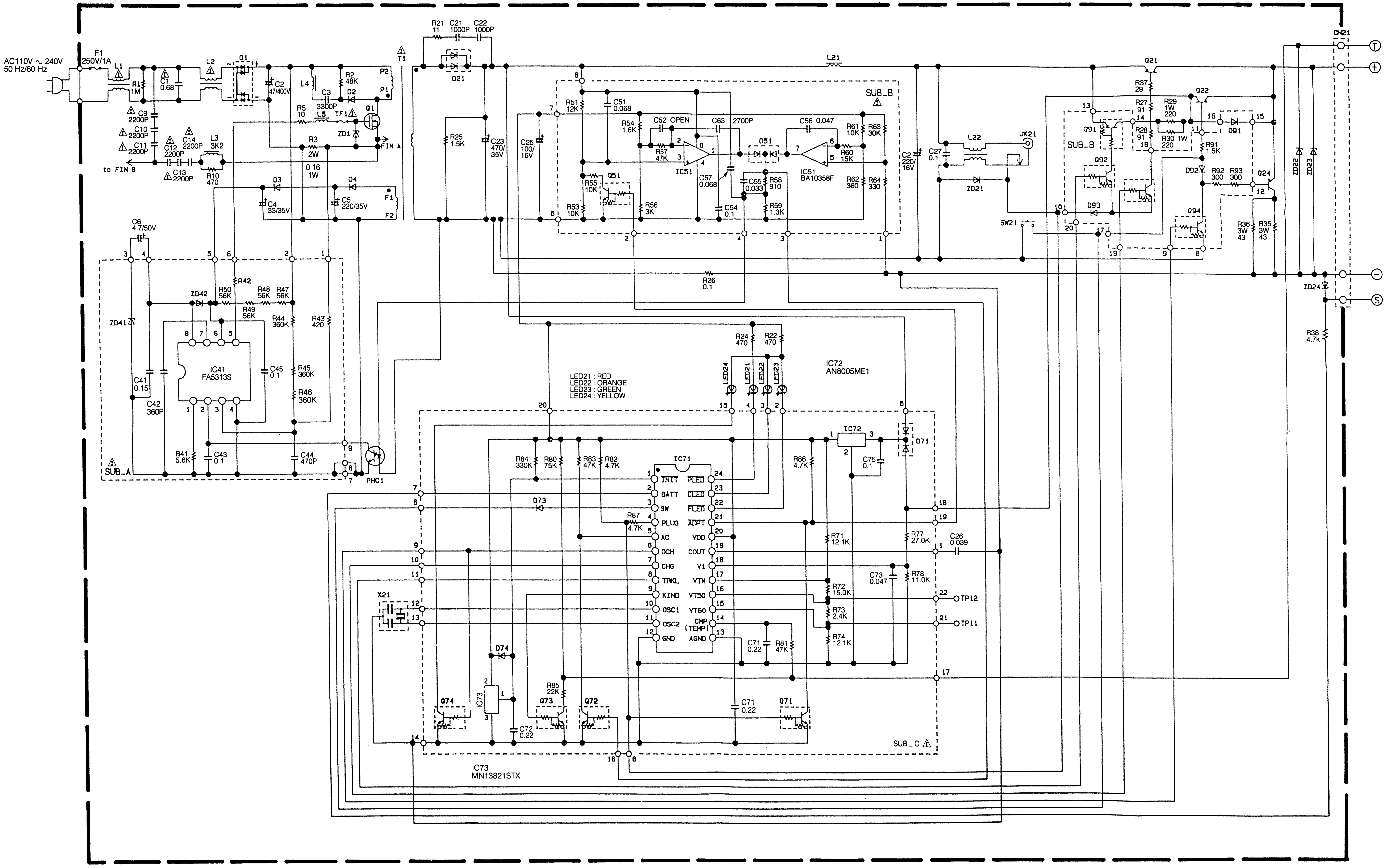

1
8
6
4
(EG TYPE)
7
5
MAIN/SUB BOARD ASSY <01>
2
3
3
RATING LABEL
(AA-V11EG B or AA-V11EK B)

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION
********************************		
		CABINET ASSEMBLY <M2>
1	YQ31828	UPPER CASE ASSY,EG
	YQ31828-002	UPPER CASE ASSY,EK
2	YQ10531-001	LOWER CASE
⚠ 3	YQ10531-011	SCREW,X2
⚠ 4	YQ10531-006	POWER CORD,EG
⚠	YQ10531-010	POWER CORD,EK
⚠ 5	YQ10441-009	FUSE
6	YQ10531-004	SHIELD CASE
⚠ 7	YQ10531-005	INSULATOR
8	YQ10441-013	BATTERY TERMINAL

6.2 SCHEMATIC DIAGRAM

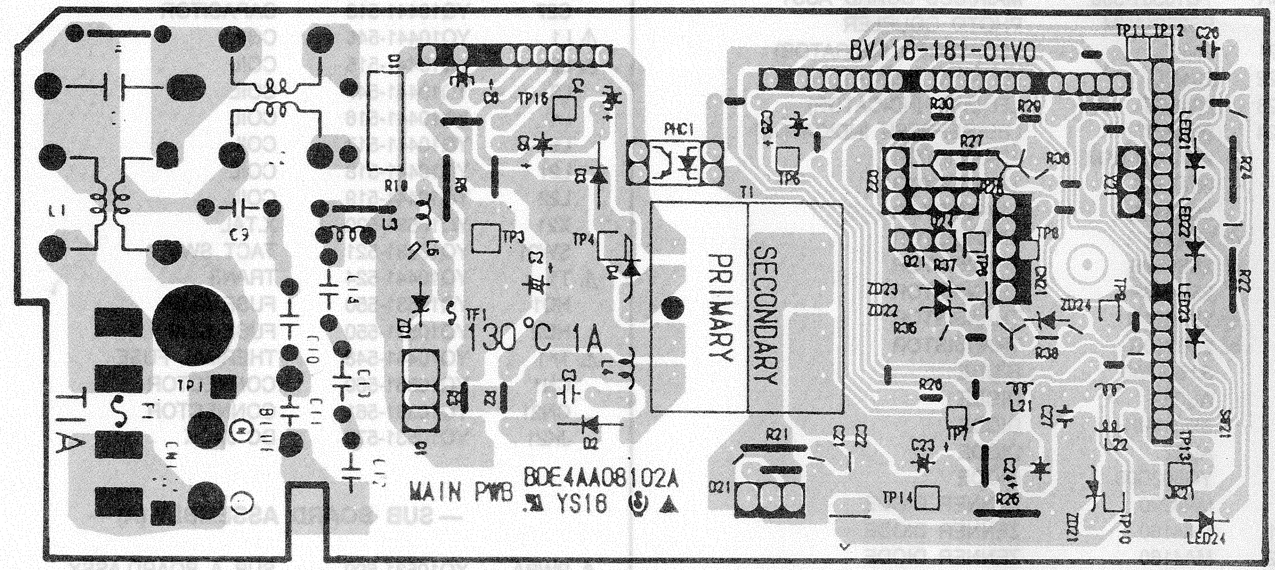
Safety precautions

The Components identified by the symbol ⚠ are critical for safety. For continued safety, replace safety critical components only with manufactures recommended parts.



AC110V ~ 240V
50 Hz/60 Hz
F1
250V/1A
L1
R1
1M
C1
0.68
L2
D1
C2
47/400V
C9
2200P
C10
2200P
C11
2200P
C12
2200P
C13
2200P
C14
2200P
L3
3K2
R10
470
to FIN B
L4
R5
10
L5
C3
3300P
R2
48K
D2
TF1
Q1
ZD1
P2
P1
R3
2W
0.16
1W
FIN A
D3
D4
C4
33/35V
C5
220/35V
F1
F2
T1
R21
11
C21
1000P
C22
1000P
D21
R25
1.5K
C23
470/
35V
C25
100/
16V
C6
4.7/50V
SUB_A
ZD41
ZD42
R42
R50
56K
R48
56K
R47
56K
R49
56K
R44
360K
R43
420
IC41
FA5313S
C41
0.15
C42
360P
C45
0.1
R45
360K
R46
360K
R41
5.6K
C43
0.1
C44
470P
PHC1
SUB_B
R51
12K
C51
0.068
R54
1.6K
C52 OPEN
C63
2700P
C56 0.047
R57
47K
IC51
C57
0.068
D51
R61
10K
R63
30K
R60
15K
IC51
BA10358F
Q51
R55
10K
R53
10K
R56
3K
C55
0.033
R58
910
C54
0.1
R59
1.3K
R62
360
R64
330
R26
0.1
L21
C2
220/
16V
C27
0.1
L22
JK21
ZD21
SW21
Q21
R37
29
Q22
R27
91
R28
91
R29
1W
220
R30 1W
220
Q91
SUB_B
D91
R91
1.5K
Q92
D92
R92
300
R93
300
Q24
D93
Q94
R36
3W
43
R35
3W
43
ZD22
ZD23
ZD24
CN21
T
+
−
S
R38
4.7k
R24
470
R22
470
LED24
LED21
LED22
LED23
LED21 : RED
LED22 : ORANGE
LED23 : GREEN
LED24 : YELLOW
IC72
AN8005ME1
IC72
C75
0.1
D71
R84
330K
R80
75K
R83
47K
R82
4.7K
IC71
INIT
BATT
SW
PLUG
AC
DCH
CHG
TRKL
KIND
OSC1
OSC2
GND
PLED
CLED
FLED
ADPT
VDD
COUT
V1
YTM
YT50
YT60
CMP
(TEMP)
AGND
D73
R87
4.7K
R86
4.7K
R71
12.1K
R77
27.0K
C26
0.039
C73
0.047
R78
11.0K
R72
15.0K
R73
2.4K
R74
12.1K
TP12
TP11
C71
0.22
R81
47K
X21
D74
IC73
C72
0.22
R85
22K
Q74
Q73
Q72
Q71
C71
0.22
SUB_C
IC73
MN13821STX

6.3 CIRCUIT BOARD


BV11B-181-01V0
PRIMARY
SECONDARY
130°C 1A
MAIN PWB
BDE4AA08102A
YS16
T1A
PHC1
T1
TF1
TP1
TP3
TP4
TP6
TP7
TP8
TP10
TP11
TP12
TP13
TP14
TP16
C20
R21
R26
R27
R29
R30
R36
R37
R38
L21
L22
ZD23
ZD22
ZD24
LED21
LED22
LED23
LED24
C3
C9
L1
L3

6.4 ELECTRICAL PARTS LIST

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION	

****

MAIN/SUB BOARD ASSEMBLY <01>

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
⚠ PWBA	YQ10531-500	MAIN/SUB BOARD ASSY	
⚠ PHC1	PS2561IVM	PHOTO COUPLER	
LED21	204IT	LED(POWER INDICATOR)	
LED22	204AT	LED(CHG INDICATOR)	
LED23	204SGT	LED(END INDICATOR)	
LED24	204PYT	LED(REFRESH INDICATOR)	
Q1	2SK1821-01M	TRANSISTOR	
Q21	2SA1615	TRANSISTOR	
Q22	2SB642R	TRANSISTOR	
	or 2SA937	TRANSISTOR	
	or 2SB642S	TRANSISTOR	
Q24	2SB643R	TRANSISTOR	
	or 2SA874Q	TRANSISTOR	
	or 2SB790R	TRANSISTOR	
D1	S1WBA60	DIODE	
D2	AU02A	DIODE	
D3	ERA15-01	DIODE	
D4	AU02	DIODE	
D21	YG802C09	DIODE	
ZD1	MA4270	ZENNER DIODE	
ZD21	MA4160	ZENNER DIODE	
ZD22	MA4160	ZENNER DIODE	
ZD23	MA4160	ZENNER DIODE	
ZD24	MA4160	ZENNER DIODE	
R1	QRD14J-105AY	RESISTOR	1MΩ,/1/4W
R2	QRG026J-683	RESISTOR	68KΩ.2W
R3	YQ10531-501	RESISTOR	0.16Ω/1W
R5	QRD14AJ-100Y	RESISTOR	10Ω,1/4W
R10	QRD14AJ-471	RESISTOR	470Ω,1/4W
R21	QRD14AJ-110	RESISTOR	11Ω,1/4W
R22	QRD14AJ-471	RESISTOR	470Ω,1/4W
R24	QRD14AJ-471	RESISTOR	470Ω,1/4W
R25	QRD14AJ-152	RESISTOR	1.5KΩ,1/4W
R26	YQ10531-502	RESISTOR	0.1Ω,1W
R27	QRD14AJ-910	RESISTOR	91Ω,1/4W
R28	QRD14AJ-910	RESISTOR	91Ω,1/4W
R29	QRG016J-221	RESISTOR	220Ω,1W
R30	QRG016J-221	RESISTOR	220Ω,1W
R35	YQ10531-503	RESISTOR	43Ω,3W
R36	YQ10531-503	RESISTOR	43Ω,3W
R37	QRD14AJ-390	RESISTOR	39Ω,1/4W
R38	QRD14AJ-472	RESISTOR	4.7KΩ,1/4W
⚠ C1	YQ10441-501	CAPACITOR	0.068μF,250V
C2	YQ10441-502	E.CAPACITOR	47μF,400V
C3	YQ10441-503	CAPACITOR	3300PF
C4	YQ10441-504	E.CAPACITOR	33μF,35V
C5	YQ10531-510	E.CAPACITOR	220μF,35V
C6	YQ10441-506	E.CAPACITOR	4.6μF,50V
⚠ C9	YQ10441-544	CAPACITOR	2200P
⚠ C10	YQ10441-544	CAPACITOR	2200P
⚠ C11	YQ10441-544	CAPACITOR	2200P
⚠ C12	YQ10441-544	CAPACITOR	2200P
⚠ C13	YQ10441-544	CAPACITOR	2200P
⚠ C14	YQ10441-544	CAPACITOR	2200P
C21	YQ10441-509	CAPACITOR	1000PF,250V
C22	YQ10441-509	CAPACITOR	1000PF,250V
C23	YQ10531-511	E.CAPACITOR	470μF,250V
C24	YQ10441-511	E.CAPACITOR	220μF/16V
C25	YQ10441-512	E.CAPACITOR	100μF,16V
C26	YQ10531-512	CAPACITOR	0.039μF,50V
C27	YQ10441-513	CAPACITOR	0.1μF,50V
⚠ L1	YQ10441-546	COIL	
⚠ L2	YQ10441-515	COIL	
L3	YQ10441-547	COIL	
L4	YQ10441-516	COIL	
L5	YQ10441-517	COIL	
L21	YQ10441-518	COIL	
L22	YQ10441-519	COIL	
X21	YQ10531-520	X.TAL	
SW21	YQ10531-521	TACT SW	
⚠ T1	YQ10441-524	TRANS	
HD1	YQ10531-550	FUSE CLIP	
HD2	YQ10531-550	FUSE CLIP	
⚠ TF1	YQ10441-548	THERMAL FUSE	
CN1	YQ10531-560	CONNECTOR	
CN21	YQ10531-561	CONNECTOR	
JK21	YQ10531-570	DC JACK	

— SUB BOARD ASSEMBLY (A) —

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION
⚠ PWBA	YQ10531-600	SUB A BOARD ASSY

— SUB BOARD ASSEMBLY (B) —

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION
⚠ PWBA	YQ10531-700	SUB B BOARD ASSY

— SUB BOARD ASSEMBLY (C) —

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION
⚠ PWBA	YQ10531-800	SUB C BOARD ASSY